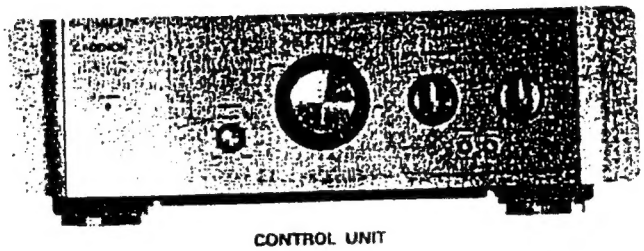
DENON

Hi-Fi Pre Amplifier

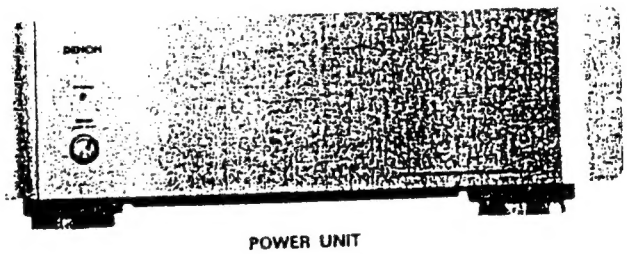
SERVICE MANUAL

MODEL PRA-S1

PRE AMPLIFIER



CONTROL UNIT

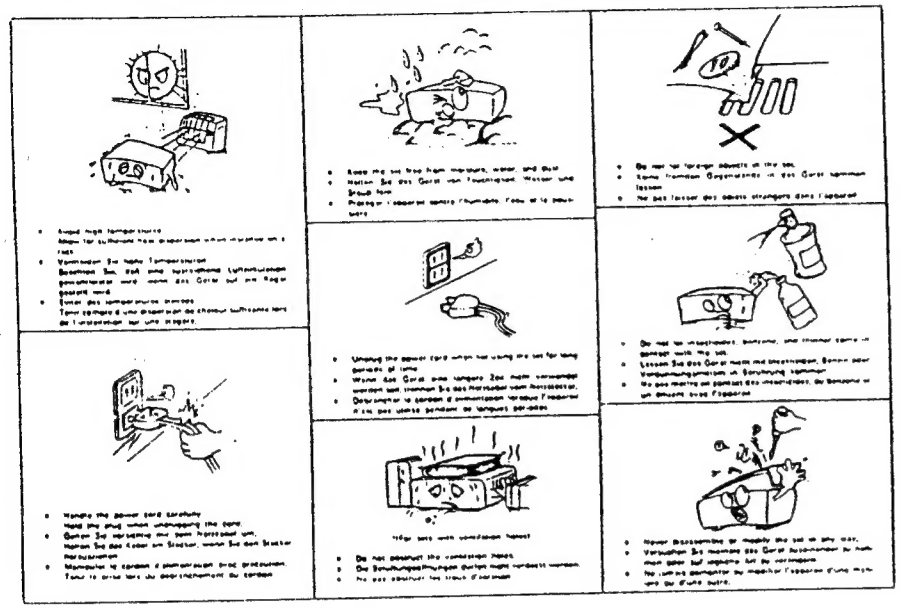


POWER UNIT

CONTENTS

NIPPON COLUMBIA CO., LTD.

NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION



[1] FEATURES

(1) Newly developed power circuit

1. A separate power supply is used to eliminate any adverse influence from the power supply section.
2. A pure power generator makes it possible to vary the power frequency, providing music reproduction with a high density unachievable on 50/60Hz AC lines.

(2) Balanced type rheostat mode attenuators

1. Newly developed balanced type rheostat mode attenuators achieved thanks to the increased performance of the electronic circuitry are used for the controls. These attenuators are the major factors for improving sound quality. In actual use, they improve the S/N ratio and keep deterioration of the sound quality due to the controls to a minimum.
2. The attenuators consist of a contact switching type switch and a high sound quality carbon resistor, and achieve far better sound quality than conventional attenuators.

(3) New inverted Σ balanced circuit and high precision balanced flat amplifier

1. A new inverted Σ balanced circuit which makes it possible to accept both balanced and unbalanced inputs is used, eliminating the need for a converter amplifier and providing simple, pure signal transfer.
2. A high precision balanced flat amplifier which improves the common mode noise elimination capacity (the greatest advantage of balanced signal transfer) is used, eliminating the need for a converter amplifier from both the balanced and unbalanced outputs.

(4) Cast aluminum chassis base.

A non-magnetic chassis base reducing mutual interference due to vibrations is used to protect the music signals against such external influences as vibrations and magnetic forces.

Balanced type rheostat mode attenuator

The dividing mode attenuators now used in audio devices have the property that the thermal agitation noise generated by the attenuator is maximum at the position at which the signal level is cut in half. Because of this, when actually listening to music, more thermal agitation noise is mixed in with the music signals than when the attenuator is at the maximum position.
The rheostat mode attenuator has the property that the thermal agitation noise decreases linearly as the attenuator is turned down from the maximum position, thereby achieving an S/N ratio better than indicated in the catalog specifications when actually listening to music.
The PRA-S1 uses fully balanced type rheostat mode attenuators, eliminating the influence of the signal ground and keeping the balanced transfer error in the attenuators extremely low.

2 NAMES AND FUNCTIONS OF PARTS (Refer to page 6, 7)

❶ POWER switch
When set to the ON (⏤) position, the power turns on and the muting circuit is activated for several seconds.
When set to the OFF (⏝) position, the power turns off.

❷ POWER indicator
This indicates the set's operating status.
The indicator turns green after the power turns on.

❸ DC OUTPUT terminals
These are the power output terminals for the control unit.
Connect the included DC power cords between these terminals and the DC INPUT terminals ⓲ on the control unit.

❹ FREQUENCY SELECTOR
Use this to select the frequency of the power unit's oscillator.
Use a flat screwdriver to change the selector's position.
Be sure to turn the power off before switching the frequency.

- 100Hz ..... Oscillator oscillates at 100Hz.
- 150Hz ..... Oscillator oscillates at 150Hz.
- 200Hz ..... Oscillator oscillates at 200Hz.
- 250Hz ..... Oscillator oscillates at 250Hz.
- 300Hz ..... Oscillator oscillates at 300Hz.

❺ AC INPUT terminal
Connect the included AC Power cords to this terminal.

NOTE:
- Changing the FREQUENCY SELECTOR's position when the power is on (⏤) may damage the unit. Be sure to turn the power off first.

❻ POWER indicator
This indicates the set's operating status.
The indicator flashes green for several seconds when the power is turned on and when the position of the EQ POWER switch ⓫ is changed, indicating that the muting circuit is activated. In the normal operating mode, the indicator is green when it is set to the ON (⏤) position.
Also, if the protective circuit is activated (due to DC output abnormal temperature rise, etc.), the indicator flashes and the output is interrupted. If this happens, turn the power off immediately, then check the connections, etc.

❼ BALANCE control
Use this to adjust the balance between the left and right speakers. When set to the center position, the amplification is the same for the left and right speakers.
If there seems to be a difference in the output voltage of the input component for the left and right channels, turn this control clockwise (↻) to increase the volume of the right channel, counterclockwise (↺) to increase the volume of the left channel. (The control can be set to 11 positions, including the central position.)

❽ ATTENUATOR
Use this to adjust the volume.
Turn clockwise (↻) to increase the volume, counterclockwise (↺) to decrease it.

❾ REC OUT SELECTOR
(recording output selector)
Use this to select the output source for recording onto a tape deck, etc.

- SOURCE
  Set to this position when recording. The recording output is the source selected with the INPUT SELECTOR ⓬.
- OFF
  In this position, the recording output is turned off. For higher quality playback sound, we recommend keeping the selector at this position when not recording.
- TAPE-1 ▶ 2
  Use this position when making copies of tapes using two tape decks. The input signal from the deck connected to the TAPE-1 input jacks is fed to the TAPE-2 REC OUT jacks, regardless of the position of the INPUT SELECTOR ⓬.
- TAPE-2 ▶ 1
  Use this position when making copies of tapes using two tape decks. The input signal from the deck connected to the TAPE-2 input jacks is fed to the TAPE-1 REC OUT jacks, regardless of the position of the INPUT SELECTOR ⓬.

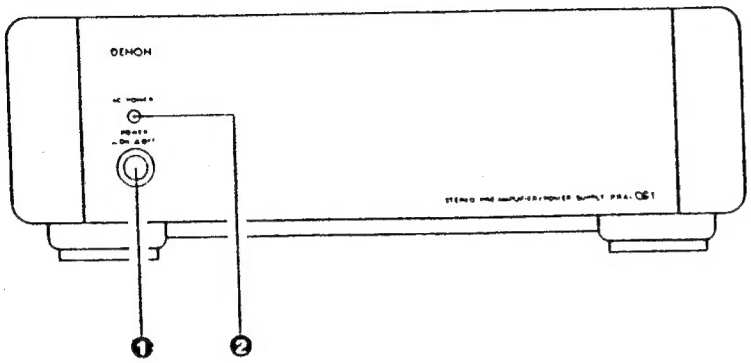
❿ SUBSONIC switch
Set this switch to the ON (⏤) position when playing records to prevent subsonic speaker vibration due to vibration of the record player's motor or vibration caused by warping of the record.

⓫ EQ POWER switch
(phono equalizer power switch)
When set to the ON (⏤) position, the power of the phono equalizer circuit turns on, and when set to the OFF (⏝) position, the power of the phono equalizer circuit turns off.
When this switch is operated, the muting circuit is activated for several seconds and the pre-out signals are set to the ground level.
Set this switch to the ON (⏤) position when playing records (analog discs). (Also set the INPUT SELECTOR ⓬ to the PHONO position.)
For sources other than records, we recommend setting this switch to the OFF (⏝) position for higher sound quality.

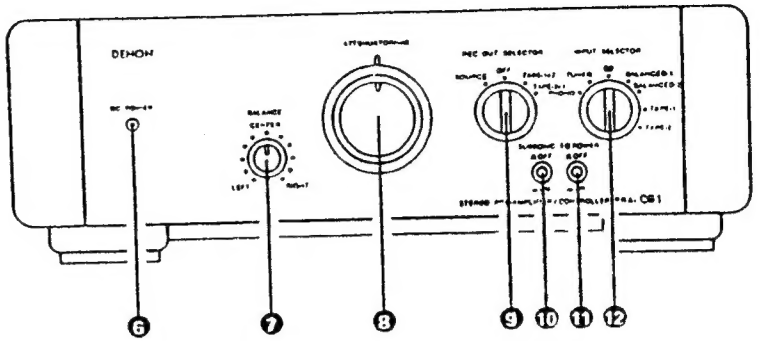
⓬ INPUT SELECTOR
Use this to select the playback source.

- PHONO
  Set to this position to play the turntable connected to the PHONO jacks on the rear panel. Also set the EQ POWER switch ⓫ to the ON (⏤) position.
  The PRA-S1's PHONO input is for MM cartridges. When using an MC cartridge, input the signals via an MC cartridge step-up transformer, etc.
- TUNER
  Set to this position to play the AM/FM tuner connected to the TUNER jacks on the rear panel.
- CD
  Set to this position to play the CD player connected to the CD jacks on the rear panel.
- BALANCED-1
  Set to this position when playing a CD player equipped with a balanced output terminal and connected to the BALANCE-1 terminal on the rear panel.
- BALANCED-2
  Set to this position when playing a CD player equipped with a balanced output terminal and connected to the BALANCE-2 terminal on the rear panel.
- TAPE-1
  Set to this position to play the tape deck connected to the TAPE-1 jacks on the rear panel.
- TAPE-2
  Set to this position to play the tape deck connected to the TAPE-2 jacks on the rear panel.

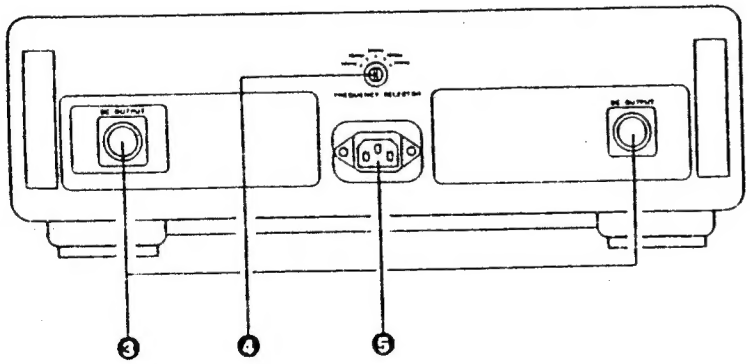
POWER UNIT FRONT PANEL
FRONTPLATTE DES NETZGERÄTES
PANNEAU AVANT DE L'UNITÉ D'ALIMENTATION



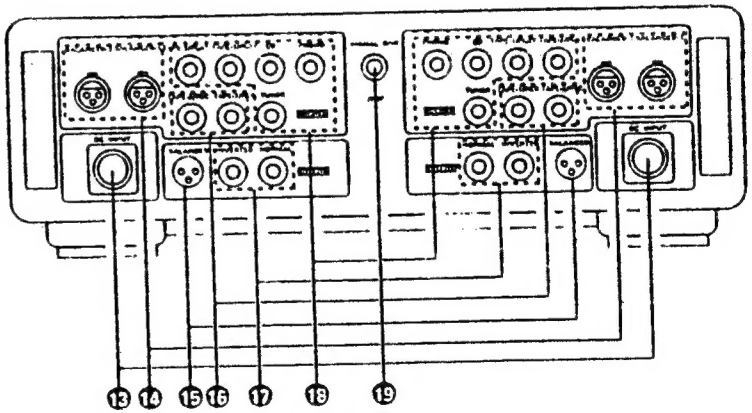
CONTROL UNIT FRONT PANEL
STEUEREINHEIT FRONTPLATTE
UNITÉ DE COMMANDE PANNEAU AVANT



POWER UNIT REAR PANEL
RÜCKSEITE DES NETZGERÄTES
PANNEAU ARRIERE DE L'UNITÉ D'ALIMENTATION

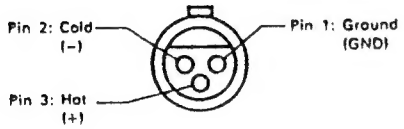


CONTROL UNIT REAR PANEL
STEUEREINHEIT RÜCKWAND
UNITÉ DE COMMANDE PANNEAU ARRIERE

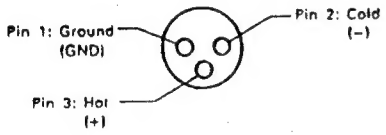


⑫ DC INPUT terminals
These are the power input terminals for the control unit.
Connect the included DC power cords between these terminals and the DC OUTPUT terminals ❸ on the power unit.

⑭ BALANCED INPUT terminals
These are cannon input terminals for connecting a CD player or other playback component equipped with balanced outputs.
The polarities of the pins are as follows:



⑮ BALANCED OUTPUT terminals
These are cannon output terminals for connecting power amplifier equipped with balanced inputs.
The polarities of the pins are as follows:



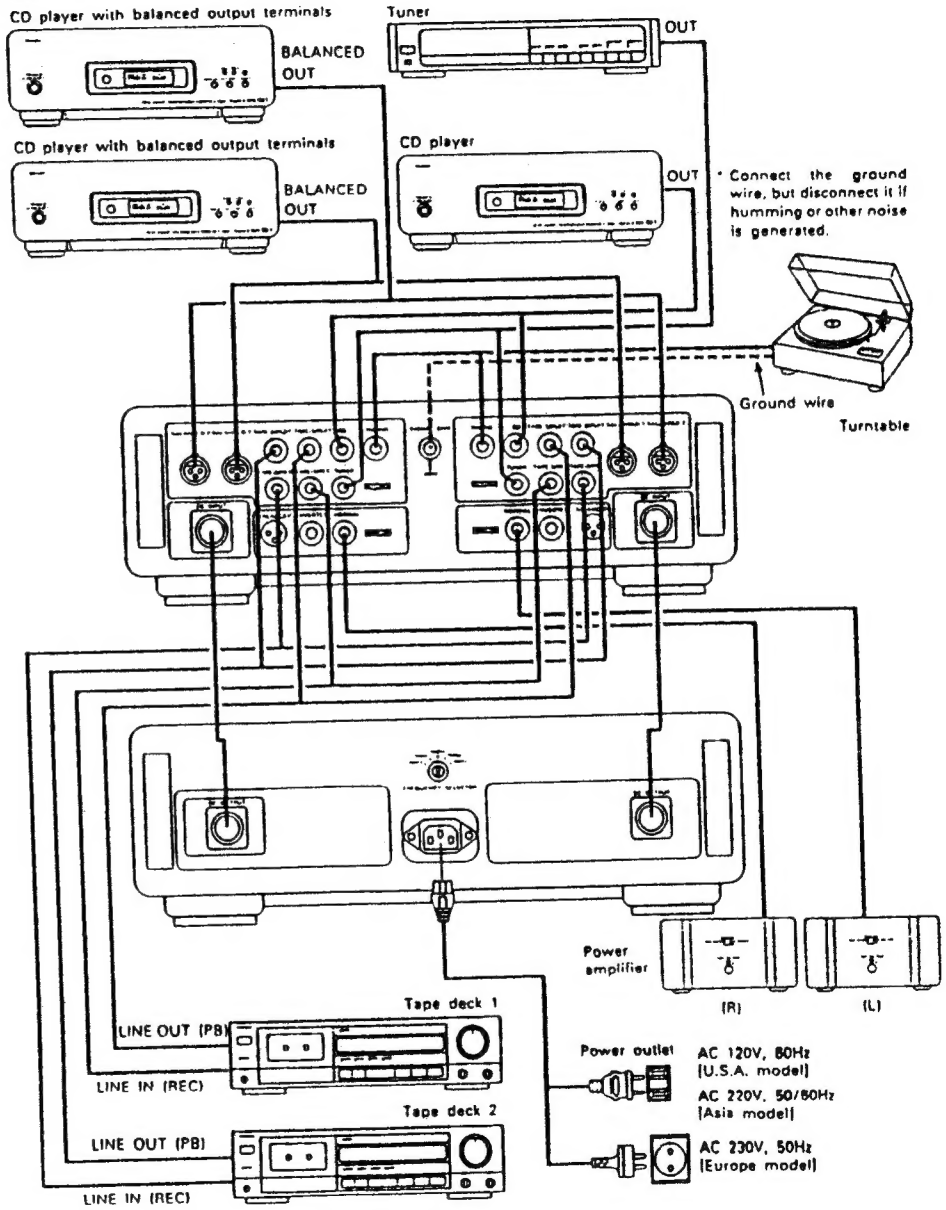
⑯ REC OUT (recording output) jacks
These are recording output jacks for connection to tape decks.

⑰ PRE OUT terminals
Connect the power amplifier here.
- NORMAL (normal phase output)
The same signals as the signals from BALANCE OUTPUT terminal pin 3 (hot) are output from this terminal.
- INVERTED
The same signals as the signals from BALANCE OUTPUT terminal pin 2 (cold) are output from this terminal.

⑱ INPUTS jacks
These are input jacks for CD players, turntables, AM/FM tuners, tape decks or other playback components.

⑲ GND (ground) terminal
Connect the turntable's ground wire here.

3 CONNECTIONS



Cautions on Connections

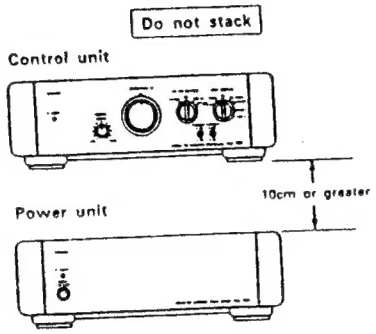
- Do not plug in the power cord until all connections are completed.
- Be sure to connect the left and right channels properly.
- Insert the plugs securely. Incomplete connections can result in noise.
- The PHONO input jacks have an extremely high sensitivity, so avoid turning up the volume when no pin plug cords are connected. Doing so may result in induction humming (booming) from the speakers. When pin plug cords are not connected, insert the included short-circuit pin plug.
- Be sure to connect the connection cords between the control unit and power unit properly, L (left) to L, R (right) to R. If either or both the sides are connected incorrectly, the protective circuit is activated and the power cannot be turned on.

Protective circuit

- The PRA-S1 is equipped with a high-speed protective circuit.
  The protective circuit sets the output to the ground level if there is a problem with the set to protect the internal circuitry and the connected equipment.
  If the protective circuit is activated, turn off the power, check the connections, then turn the power back on. The set will operate normally in a few seconds after the muting circuit turns off.

Cautions on Installation

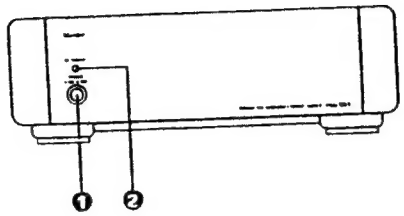
- To allow for heat discharge, do not stack the control unit directly on top of the power unit or vice versa. Leave a space of at least 10 cm between them.

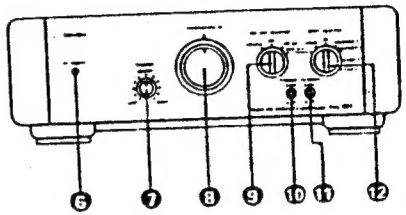


- When installing in a rack, be sure the shelf is sufficiently thick and strong enough to support the set's weight.
- When connecting using the balanced input and output terminals, check that the polarity of the other unit is the same as the PRA-S1's.

4 OPERATIONS

- Make sure that all connections are proper.
- Turn the VOLUME control ⑯ fully counterclockwise (∩) to the minimum position.
- Set the BALANCE control ⑰ to the center position.
- Set the POWER switch ❶ to the ON (⏑) position.





Playing records

1. Set the INPUT SELECTOR ⑫ to the PHONO position.
2. Set the EQ POWER switch ⑪ to the ON (⏑) position.
3. Set the record on the turntable and start playback.
4. Adjust the VOLUME ⑯ and BALANCE ⑰ controls to the desired levels.

Playing CDs
(when the CD player is connected to the CD jacks)

1. Set the INPUT SELECTOR ⑫ to the CD position.
2. Set the CD in the CD player and start playback.
3. Adjust the VOLUME ⑯ and BALANCE ⑰ controls to the desired levels.

Listening to the radio on the tuner
(when the tuner is connected to the TUNER jacks)

1. Set the INPUT SELECTOR ⑫ to the TUNER position.
2. Tune the radio to the desired station.
3. Adjust the VOLUME ⑯ and BALANCE ⑰ controls to the desired levels.

Playing a component connected to a balanced input terminal

1. Set the INPUT SELECTOR ⑫ to the "BALANCED-1" or "BALANCED-2" position.
2. Begin playback on the component connected to the balanced input terminal.
3. Adjust the VOLUME ⑯ and to BALANCE ⑰ controls to the the desired levels.

Playing a tape deck

1. Set the INPUT SELECTOR ⑫ to the TAPE-1 or TAPE-2 position.
2. Set the tape in the tape deck and start playback.
3. Adjust the VOLUME ⑯ and BALANCE ⑰ controls to the desired levels.

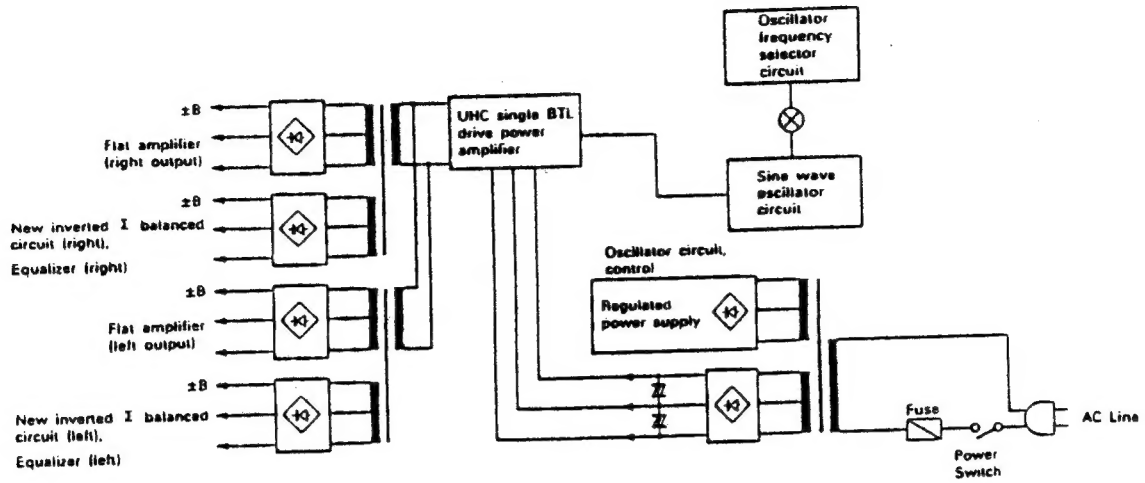
Copying tapes
(Refer to the tape decks' instructions.)

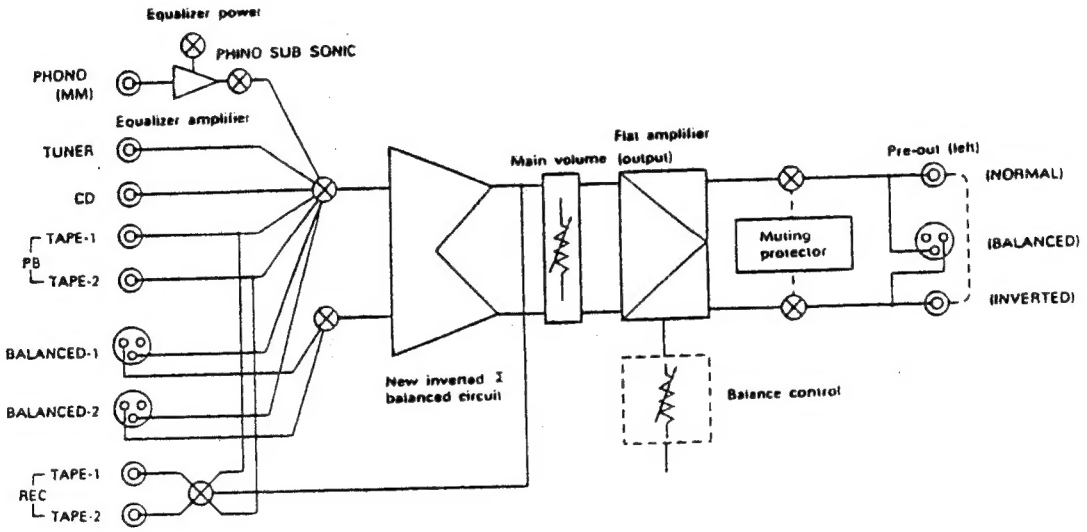
1. Select the tape deck using the REC OUT SELECTOR ❾.
   - To record from the deck connected to the TAPE-1 jacks, set to the TAPE-1 ▶ 2 position.
   - To record from the deck connected to the TAPE-2 jacks, set to the TAPE-2 ▶ 1 position.
2. Set the tape deck onto which you want to record to the recording mode.
3. Set the tape deck from which you want copy to the play mode.

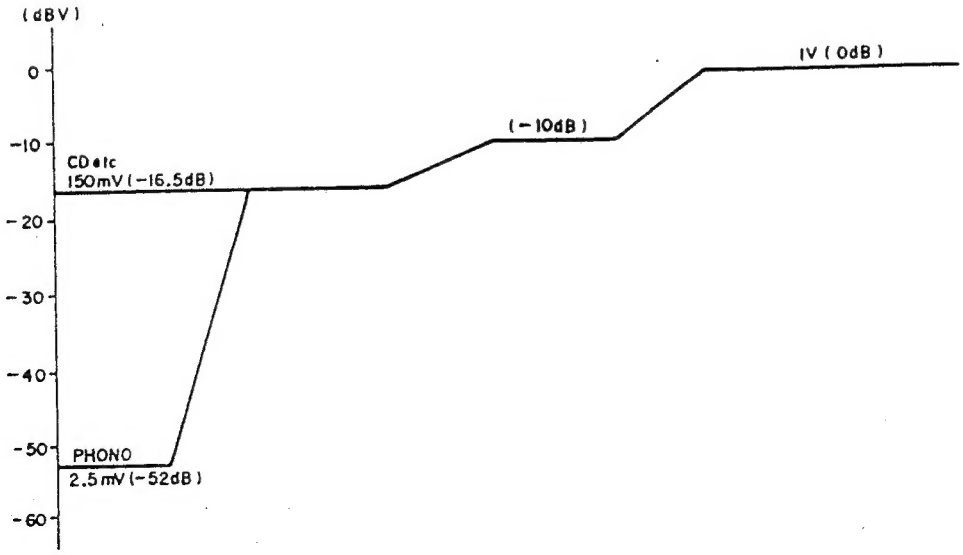
Recording onto a tape deck
(other than for copying tapes)

1. Select the source to be recorded using the INPUT SELECTOR ⑫.
2. Set the REC OUT SELECTOR ❾ to the SOURCE position.
3. Set the tape deck onto which you want to record to the recording mode.
   (Refer to the tape deck's instructions.)
4. Play the source to be recorded.

5 BLOCK DIAGRAM







6 SPECIFICATIONS

■ Control unit

Rated output:	NORMAL, INVERTED	: 1 V
	BALANCED	: 2 V
Input sensitivity/impedance:	PHONO (MM)	: 2.5 mV/47 kΩ/ohm
	CD, TUNER, TAPE-1, TAPE-2	: 150 mV/47 kΩ/ohm
	BALANCED-1, BALANCED-2	: 150 mV/100 kΩ/ohm
RIAA deviation:	PHONO	: 20Hz to 20kHz, ±0.3dB
Total harmonic distortion rate:	0.005% or less	
S/N ratio (A network):	PHONO (MM)	: 91 dB (input terminals short-circuited, 5 mV input signal)
	CD, TUNER, TAPE-1, TAPE-2	: 108 dB (input terminals short-circuited)
Maximum external dimensions:	434 (W) × 145 (H) × 443 (D) mm 17-3/32" × 5-45/64" × 17-5/64" (including feet, controls and jacks)	
Weight:	17.4 kg (38 lbs 7 oz)	

■ Power (power generator) unit

Power supply:	AC 120 V, 60 Hz	(U.S.A. model)
	AC 220 V, 50/60Hz	(Asia model)
	AC 230 V, 50 Hz	(Europe model)
Power consumption:	120 W	(U.S.A. model)
	110 W	(Asia & Europe model)
Maximum external dimensions:	434 (W) × 145 (H) × 426 (D) mm 17-3/32" × 5-45/64" × 16-49/64" (including feet, controls and jacks)	
Weight:	24.8 kg (54 lbs 12 oz)	

7 TROUBLESHOOTING

Check the following before assuming there is a problem with the set.

1. Are all connections proper?
2. Is the set being operated as described in the operating instructions?
3. Are the power amplifier and input components being operated properly?

If the set does not seem to be operating properly, check the points listed below. If these points do not apply, the set may be damaged. Turn off the power immediately and contact your store of purchase.

	Symptom	Cause	Measures
Problems occurring when playing records, tapes and FM broadcasts.	Power indicator does not light and no sound is produced when POWER switch is turned on.	• Power cord is not plugged into outlet. • Power cord is not plugged into AC inlet.	• Check that the cord is plugged in. • Check that the cord is plugged in.
	Power indicator lights but no sound is produced.	• Incomplete connections to power amplifier. • INPUT SELECTOR not set to proper position. • VOLUME control turned down.	• Connect securely. • Set to the proper position. • Set to an appropriate level.
	Sound is not produced from one side only.	• Incomplete connections to power amplifier. • Input cords not properly connected. • Left/right balance improperly adjusted.	• Connect securely. • Connect securely. • Adjust the BALANCE control.
	Volume level is different when listening to tuner and records.	• Tuner and record outputs different.	• Adjust the tuner output to the turntable's output (If the tuner is equipped with an output control).
	Positions of instruments inverted for stereo sources.	• Left and right power amplifier or input cords inverted.	• Check the left/right connections.
Problems occurring when playing records.	Booming sound produced when playing records.	• Turntable's ground wire not connected. • Input cords not properly connected to PHONO jacks. • Influence from a TV or VCR near the turntable.	• Connect securely. • Connect securely. • Change the position of installation.
	Howling produced when volume is turned up while playing records.	• Turntable and speaker systems are too close. • Floor is soft and vibrates easily.	• Move speaker systems as far away as possible. • Use cushions to absorb the vibrations transmitted from the floor to the speakers. If the turntable does not include insulators, use audio insulators, available in stores.
	Sound is distorted.	• Stylus pressure is too light. • Dirt on tip of stylus. • Defective cartridge.	• Apply proper pressure. • Check the tip of the stylus. • Replace the cartridge.

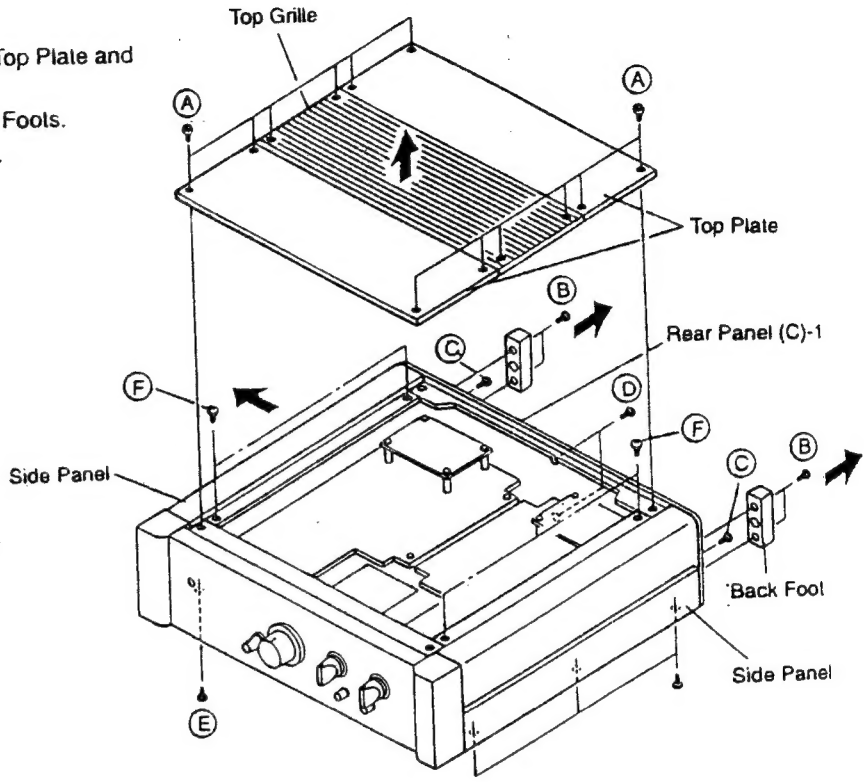
DISASSEMBLY

(To reassemble reverse disassembly)

[CONTROL UNIT]

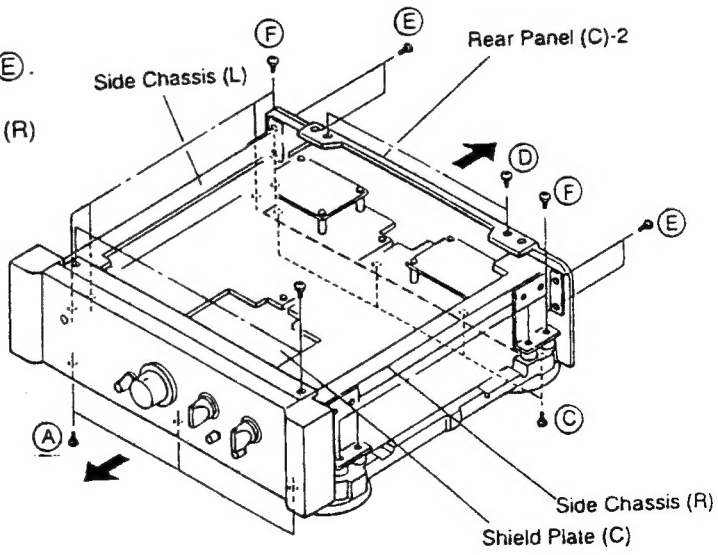
1. Outside Parts

1. Remove 12 screws Ⓐ , and then detach Top Plate and Top Grille as show as arrow.
2. Remove 4 screws Ⓑ and detach 2 Back Fools.
3. Remove 2 screws Ⓒ and 2 screws Ⓓ . Detach Rear Panel.
4. Remove 6 screws Ⓔ and 4 screws Ⓕ . Detach Side Panel as show as arrow.



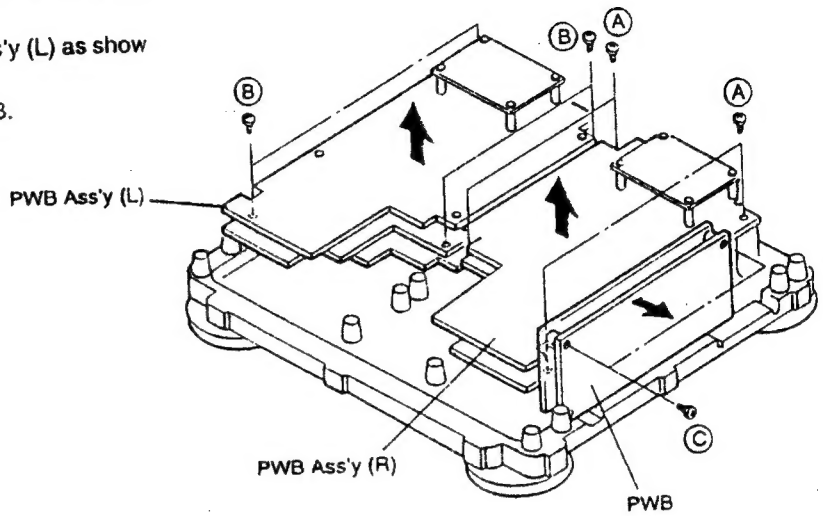
2. Front Panel, Rear Panel and Side Chassis

1. Remove 3 screws Ⓐ and 2 screws Ⓑ . Detach Front Plate as show as arrow.
2. Remove 4 screws Ⓒ , 2 screws Ⓓ and 4 screws Ⓔ. Detach Rear Panel as show as arrow.
3. Remove 8 screws Ⓕ , then detach Side Chassis (R) and Side Chassis (L).



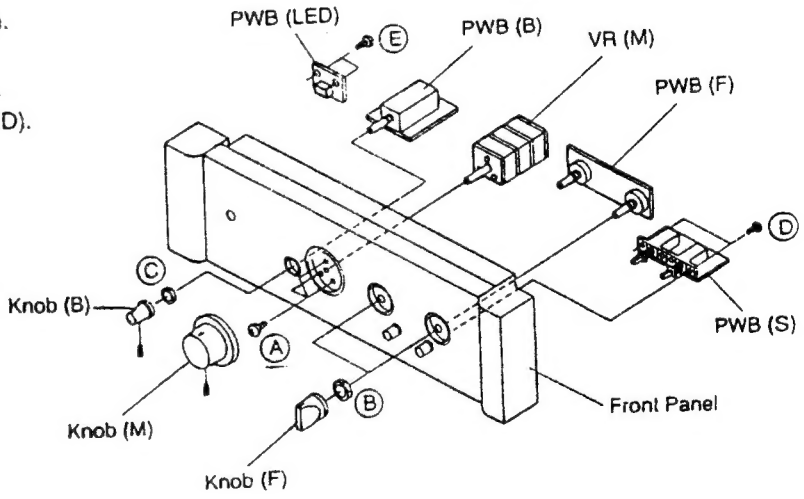
3. PWB Ass'y and PWB

1. Remove 4 screws Ⓐ , and then detach PWB Ass'y (R) as show as arrow.
2. Remove 4 screws Ⓑ , Detach PWB Ass'y (L) as show as arrow.
3. Remove 2 screws Ⓒ , and detach PWB.



4. Each Front Panel PWB

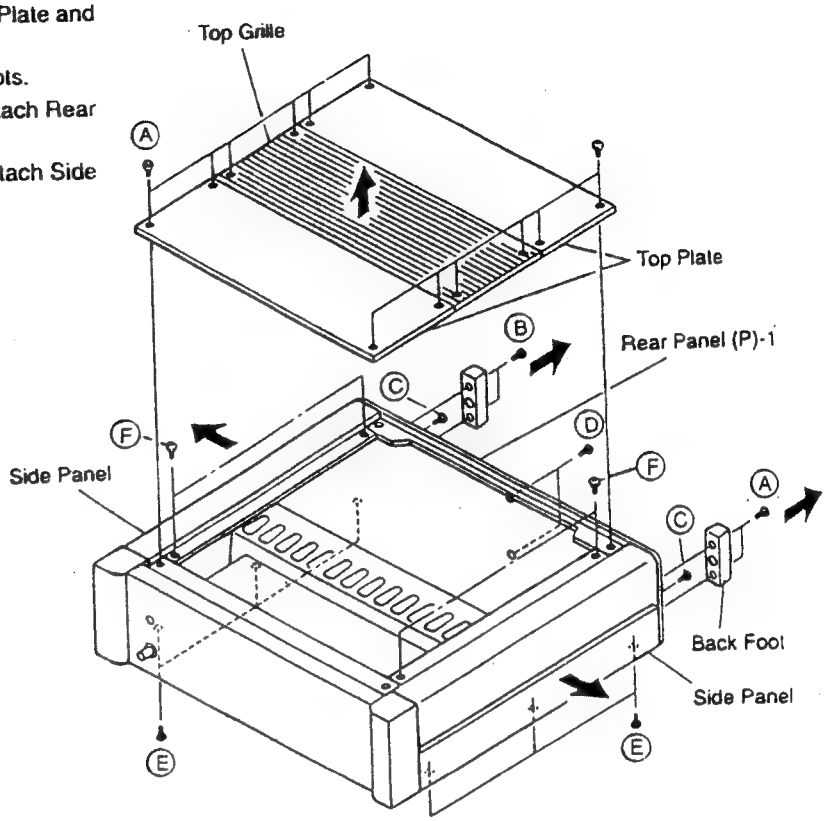
1. Loosen knob (M) screw and remove knob (M). Remove 3 screws Ⓐ and detach VR (M).
2. Loosen 2 knob (F) screws and remove knob (F). Remove 2 nuts Ⓑ and detach PWB (F).
3. Loosen knob (B) screw and remove knob (B). Remove nut Ⓒ and detach PWB (B).
4. Remove 2 screws Ⓓ and detach PWB (S).
5. Remove 2 screws Ⓔ and detach PWB (LED).



[POWER UNIT]

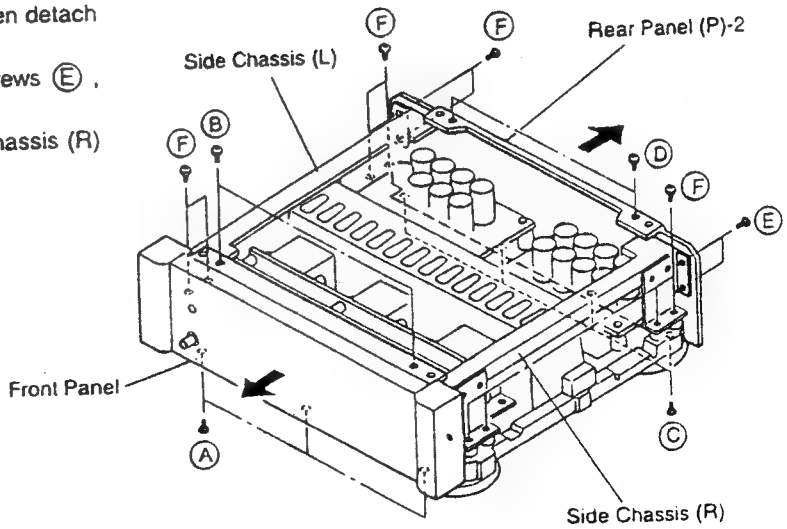
1. Outside Parts

1. Remove 12 screws Ⓐ , and then detach Top Plate and Top Grille as show as arrow.
2. Remove 4 screws Ⓑ and detach 2 Back Foots.
3. Remove 2 screws Ⓒ and 2 screws Ⓓ . Detach Rear Panel.
4. Remove 6 screws Ⓔ and 4 screws Ⓕ . Detach Side Panel as show as arrow.



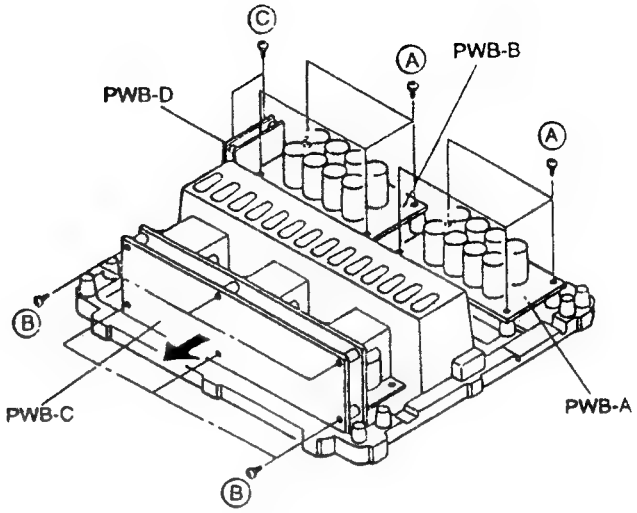
2. Front Panel,Rear Panel and Side Chassis

1. Remove 3 screws Ⓐ and 2 screws Ⓑ , then detach Front Panel as show as arrow.
2. Remove 4 screws Ⓒ , 2 screws Ⓓ and 4 screws Ⓔ , Detach Rear Panel as show as arrow,
3. Remove 8 screws Ⓕ , then detach Side Chassis (R) and Side Chassis (L).



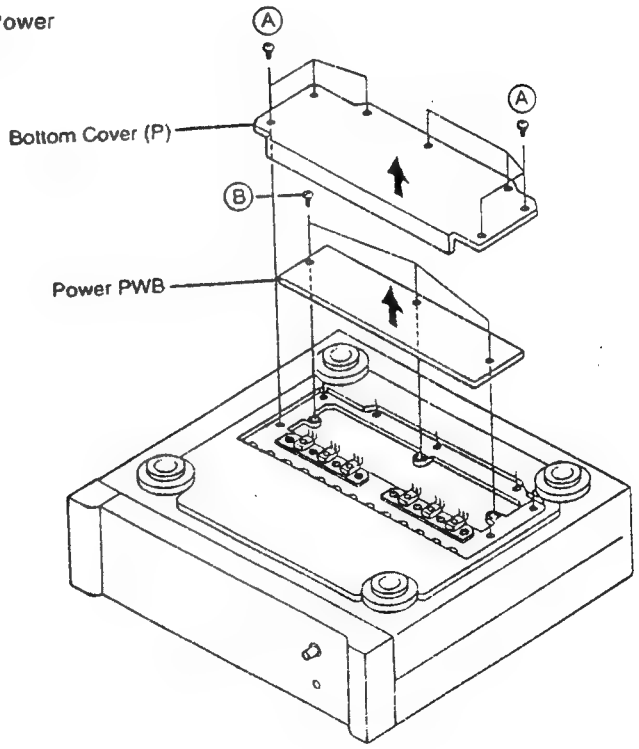
3. PWB and Transformer

1. Remove 8 screws Ⓐ , then detach PWB-A and PWB-B.
2. Remove 6 screws Ⓑ , and then detach PWB-C.
3. Remove 2 screws Ⓒ , Detach PWB-D.



4. Power PWB

1. Remove 7 screws Ⓐ , and then detach Bottom Cover (P).
2. Remove 3 screws Ⓑ , release transistors at Power PWB with soldering iron. Detach Power PWB.



ADJUSTMENT

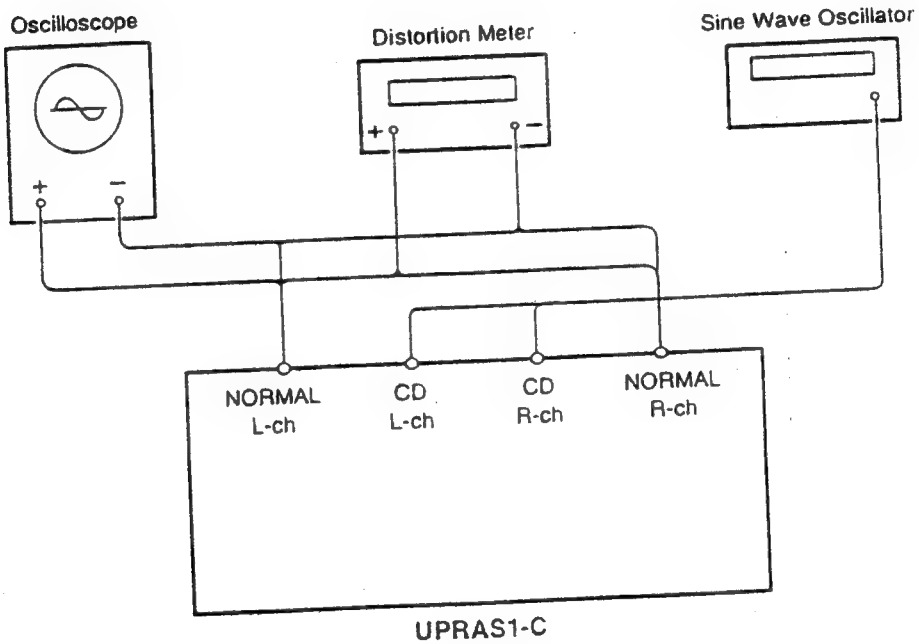
DISTORTION ADJUSTMENT

1. Measurement Equipment Required for Adjustment

- Oscilloscope
- Distortion Meter
- Sine Wave Oscillator

2.Adjustment

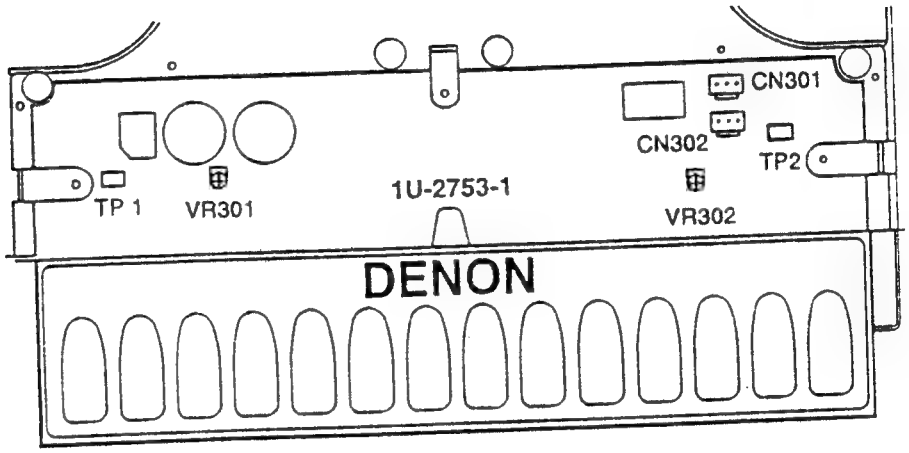
1. Connect sine wave oscillator to CD input terminal, and input 1KHz - 1Vrms signal.
2. Connect oscilloscope and distortion meter to NORMAL output terminal, turn the Main Volume maximum.
3. Turn the unit power switch ON.
4. Rotate L-ch (1U-2747-1) VR301 and R-ch (1U-2748-1) VR302 so as to obtain the smallest value of distortion.
5. Turn the unit power switch OFF, then disconnect measurement equipment.

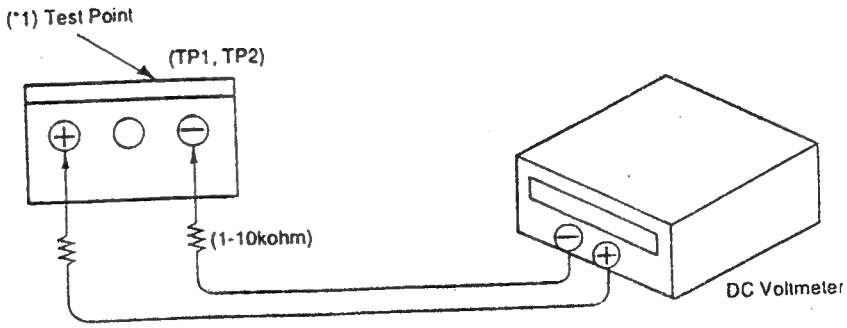


POWER AMPLIFIER STAGE (POWER UNIT)

1. Idle Current Adjustment

Turn VR301, VR302 fully counterclockwise.
Disconnect lead connectors (CN301, CN302) and turn the power switch ON.
(*1) Connect a DC voltmeter to Test Point (TP1) and obtain a DC voltage at the same Test Point as follows.
Turn VR301 clockwise and adjust the voltage to 10mV ±2mV.
Keep warm up 5 minutes, adjust the above voltage to 10mV ±1mV.
Keep warm up 10 minutes, confirm the above voltage to 10mV ±1mV.
Adjust the voltage with VR302 the same procedure as to the above for TP2.
After ward connect lead connectors (CN301, CN302).



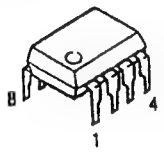


Note 1 : Be sure to connect a oscillation preventive resistor (1 kohm ~ 10 kohm) on the tip of DC Voltmeter probe.

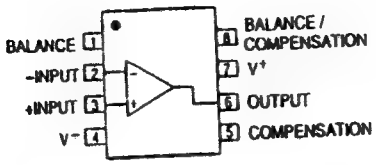
SEMICONDUCTORS

● IC

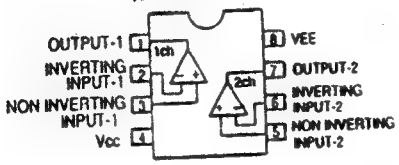
NJM4558DD
M5219P
NJMOP07D



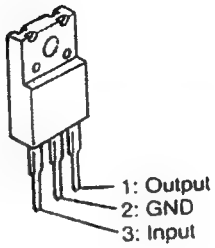
NJMOP07D



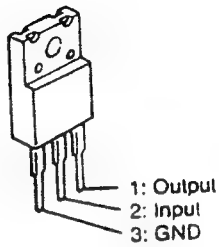
NJM4558DD
M5219P



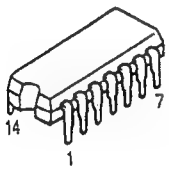
NJM7805FA
NJM7812FA
NJM7820FA
NJM78M15FA



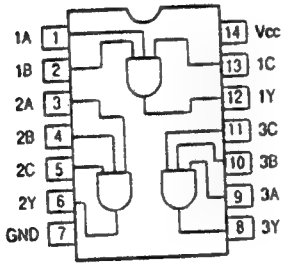
NJM7915FA



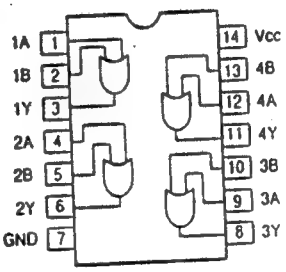
TC74HC11AP
TC74HC32AP
HD74HC10P



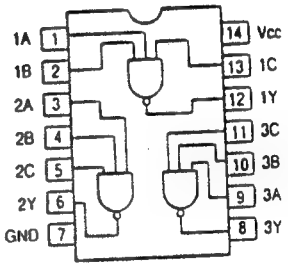
TC74HC11AP



TC74HC32AP

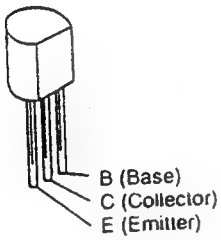


HD74HC10P

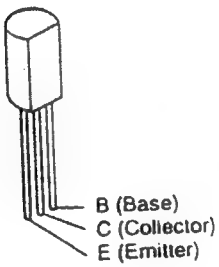


● TRANSISTOR

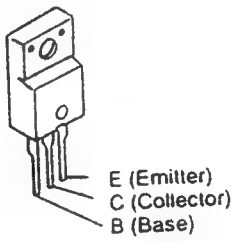
2SA970
2SA988
2SA1015
2SC1815
2SC1841
2SC2240



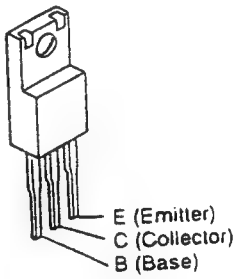
2SA1145
2SC2705



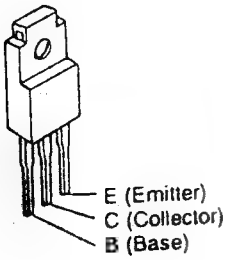
2SB1586
2SD2437



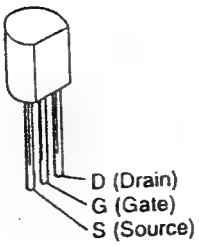
2SB1274
2SD1913



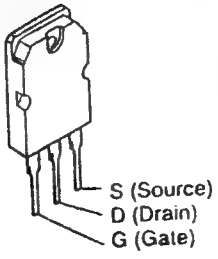
2SA1306
2SB1186A
2SC3298
2SD1763A



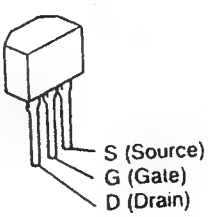
2SK373



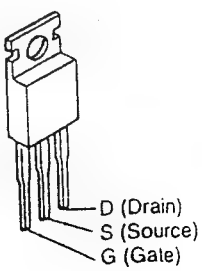
2SK1303
2SJ216



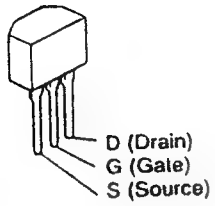
2SK184C
2SK369



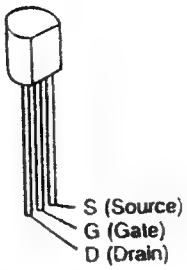
2SJ78
2SK215



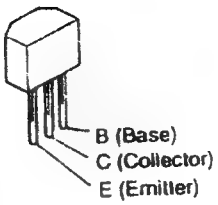
2SK381



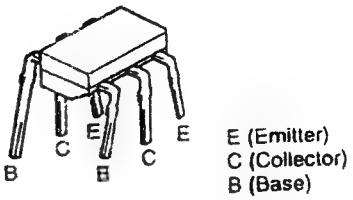
2SK362



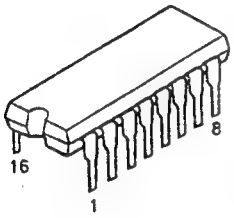
RN2202 (10K-10K)

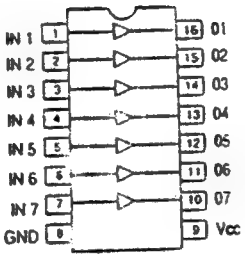


2SA1240
2SC3067



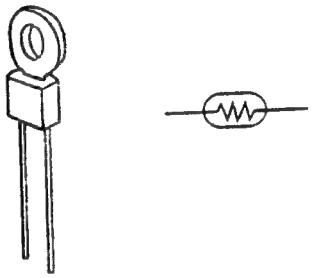
LB1701 (Transistor Array)





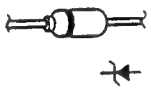
• POSISTOR

PTH9M04BD222TS2F333



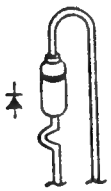
• DIODE (Include LED)

HZ3A-1
HZ3B-2
HZ3C-1
HZ5B-1
HZ5C-1
HZ6C-1
HZ9C-1
HZ6LA-1
HZ16-1
HZ18-1
HZ18-3
HZ20L-2
HZ24-1

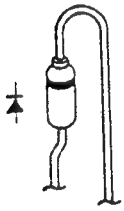


1SS270A
1S2076A

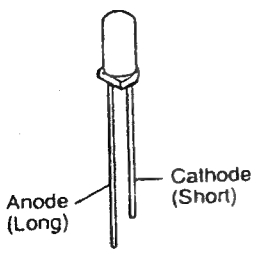
S2K20F



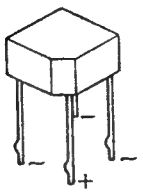
1SR35-200A

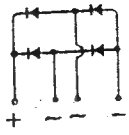


SEL-2210E
SEL-4414G (GREEN)



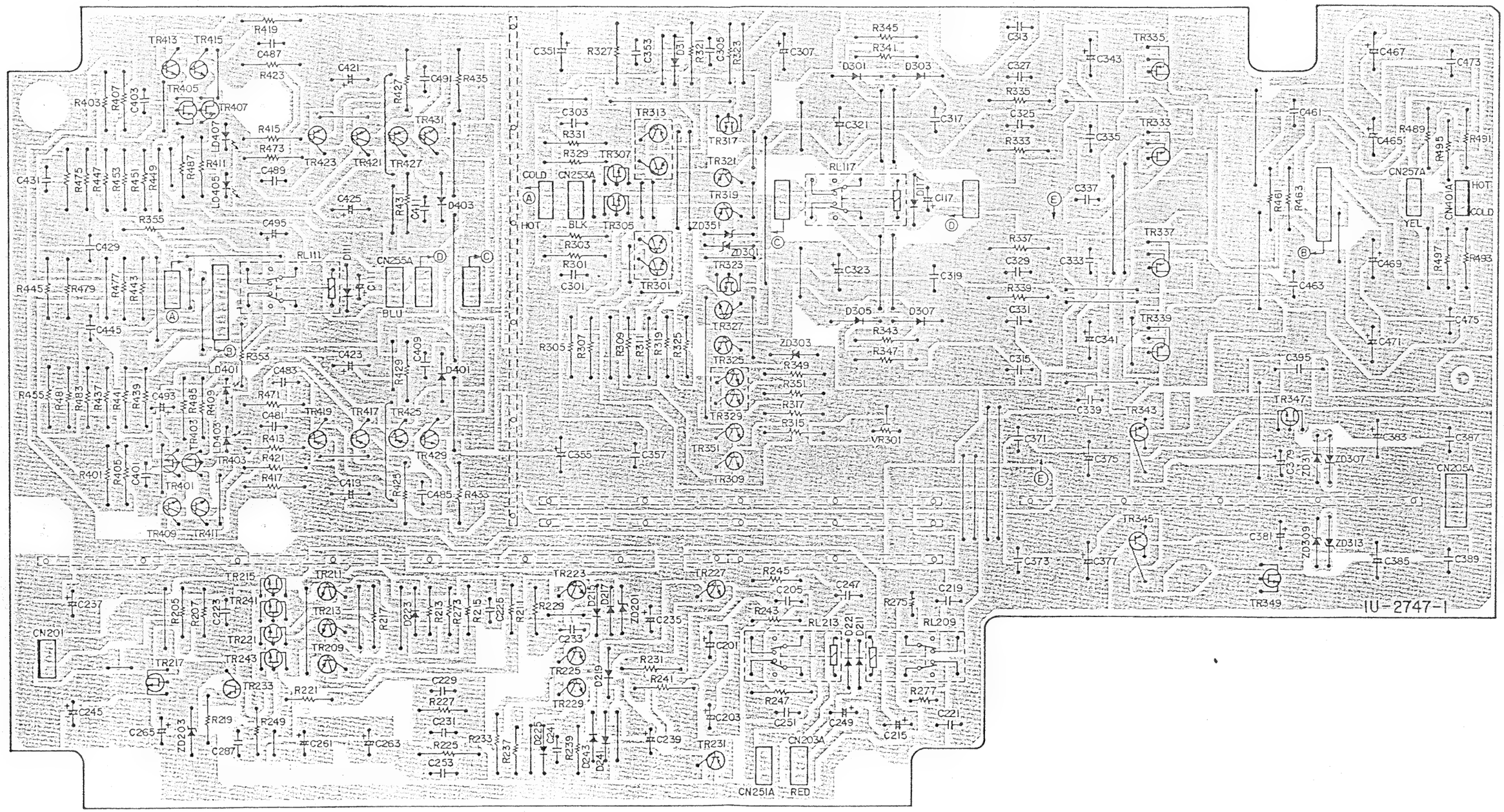
4D4B42



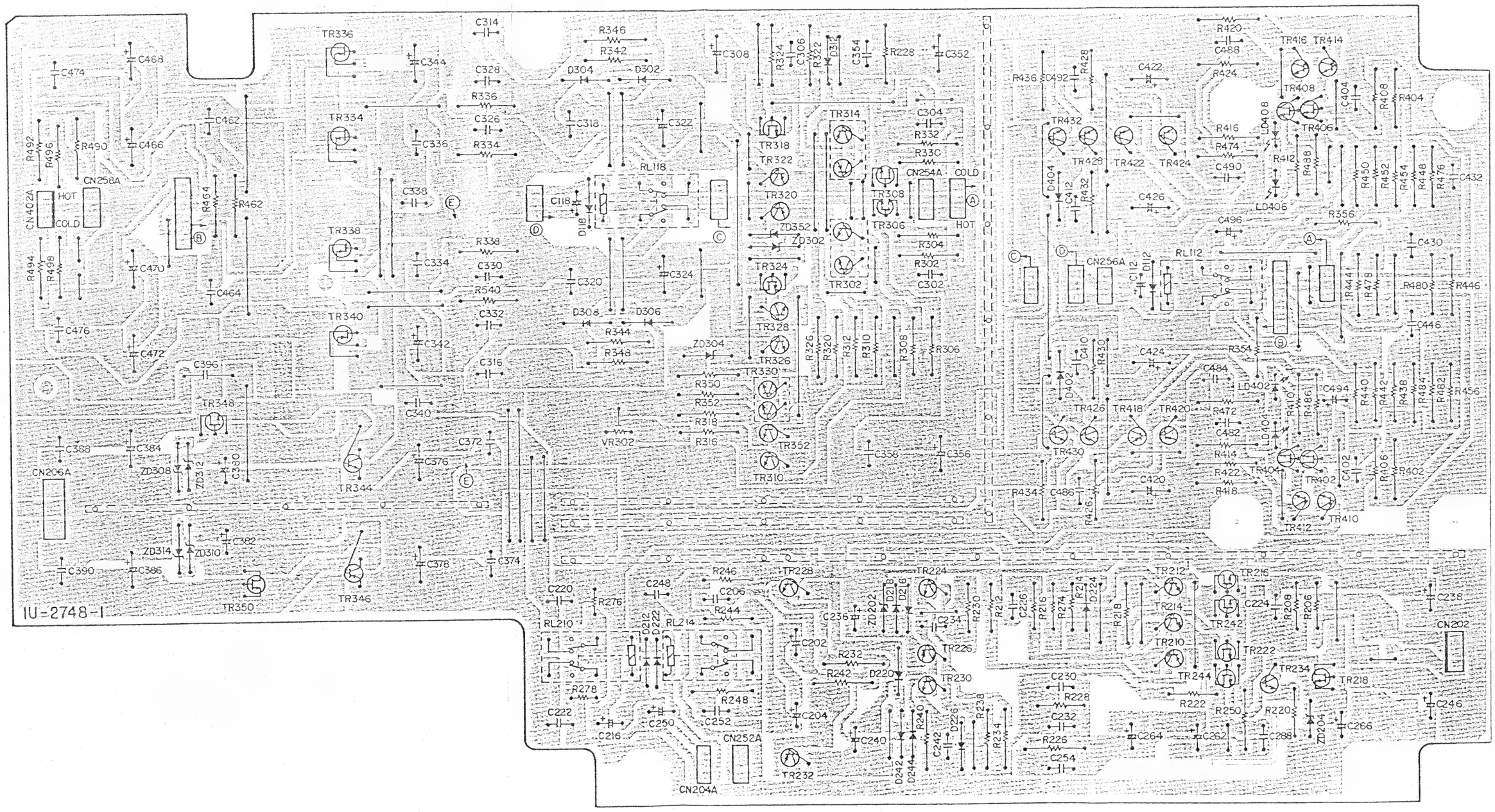


PRINTED WIRING BOARD (Pattern side)

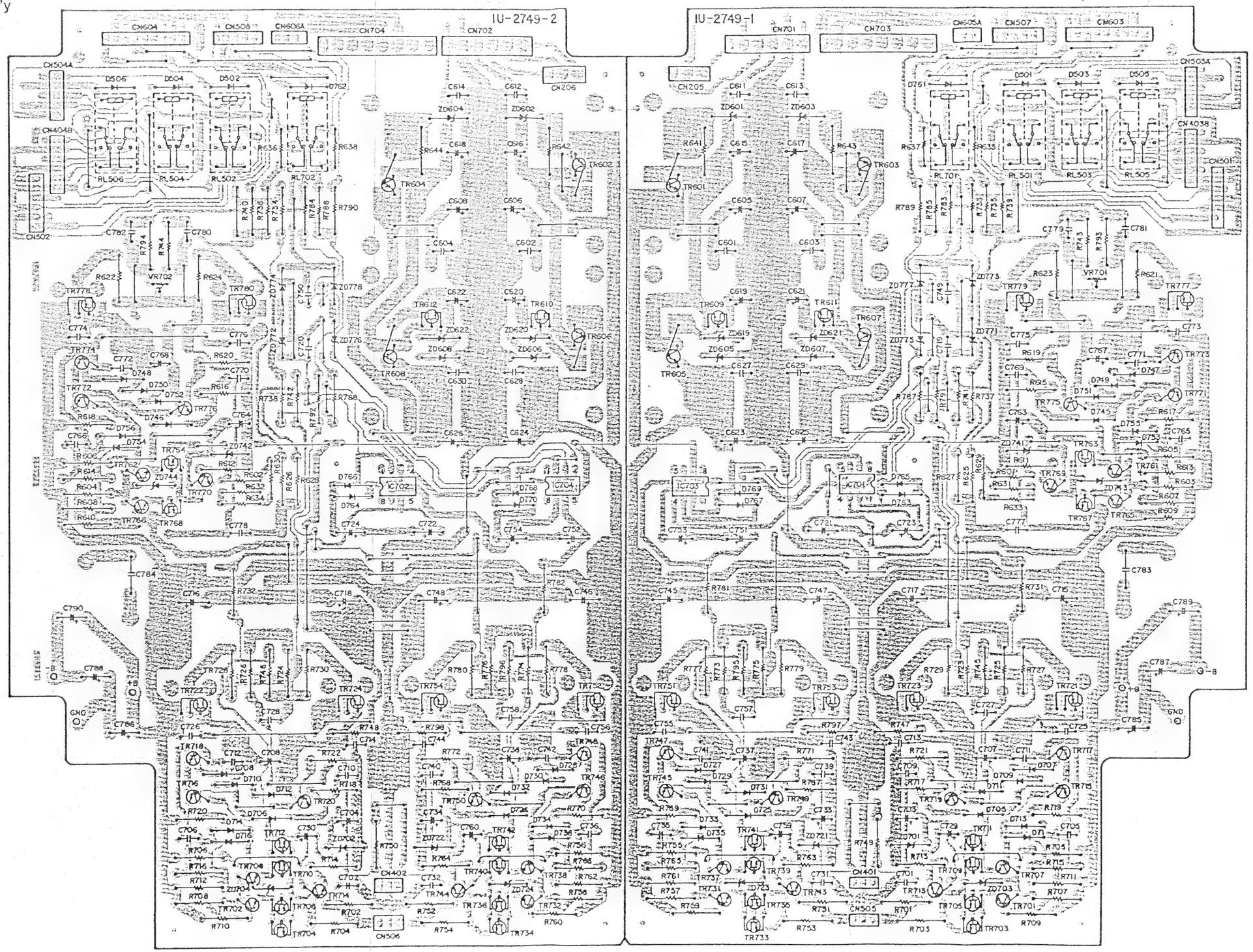
1U-2747 Input (L) Unit Ass'y



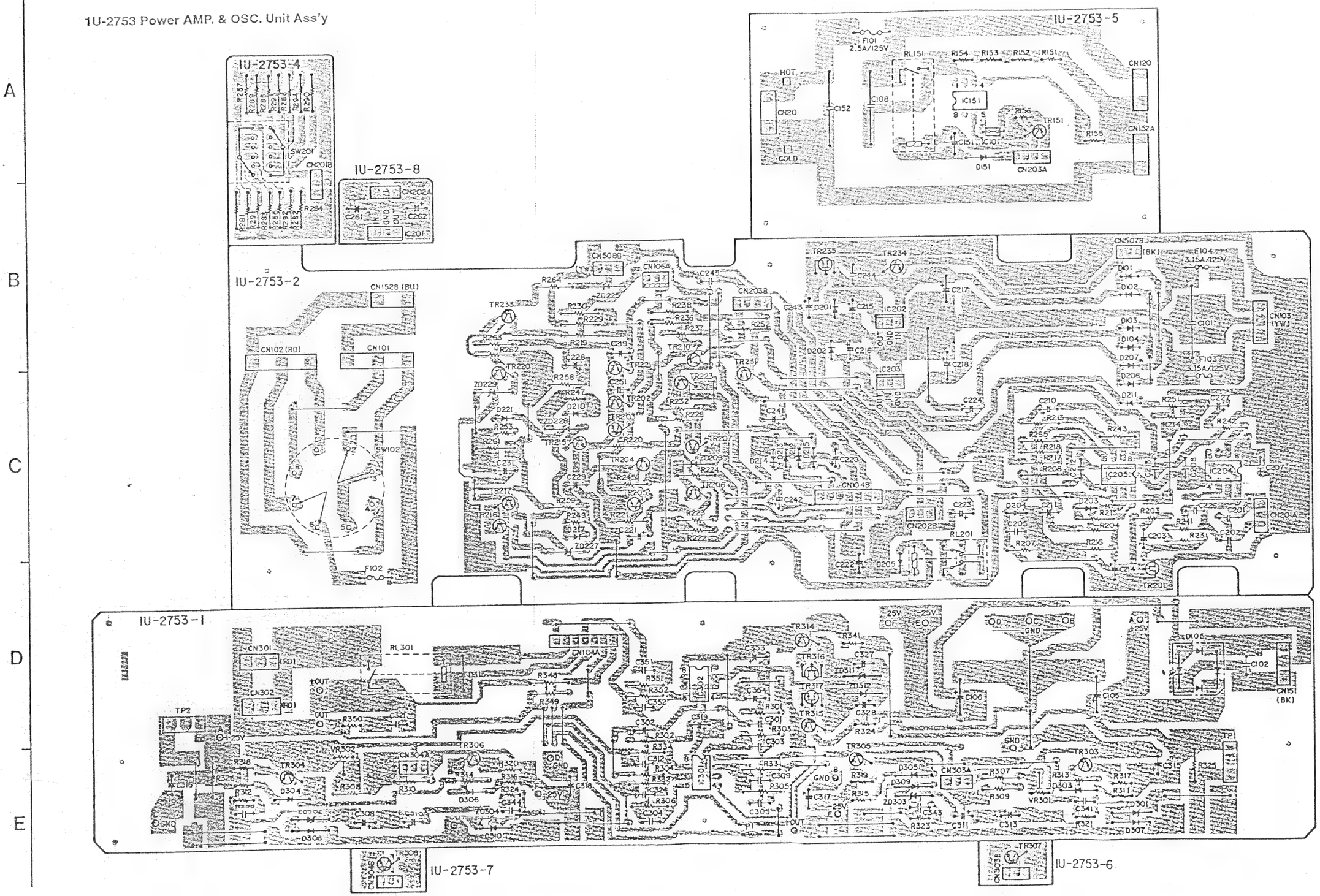
1U-2748 Input (R) Unit Ass'y

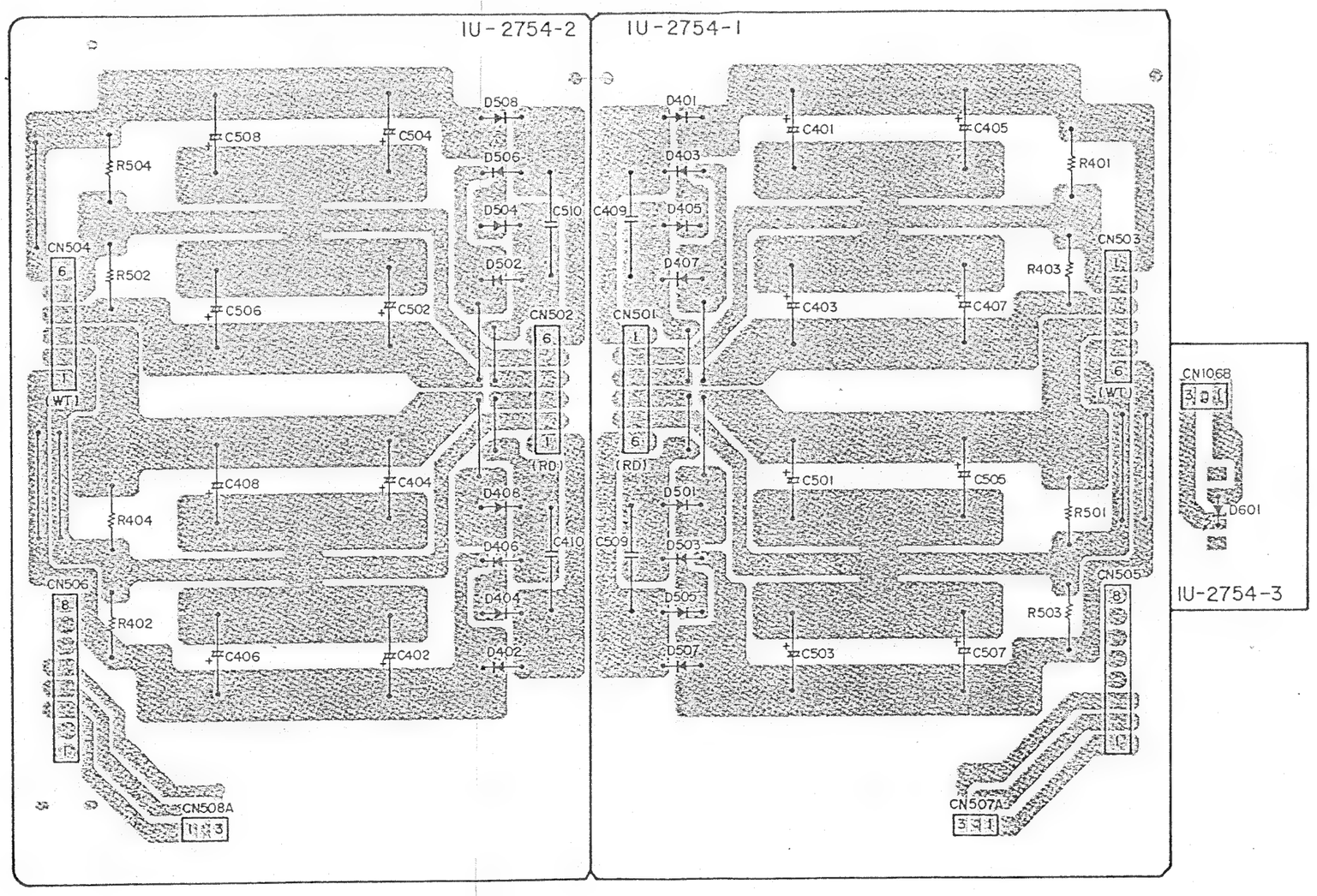


1U-2749 Output Unit Ass'y

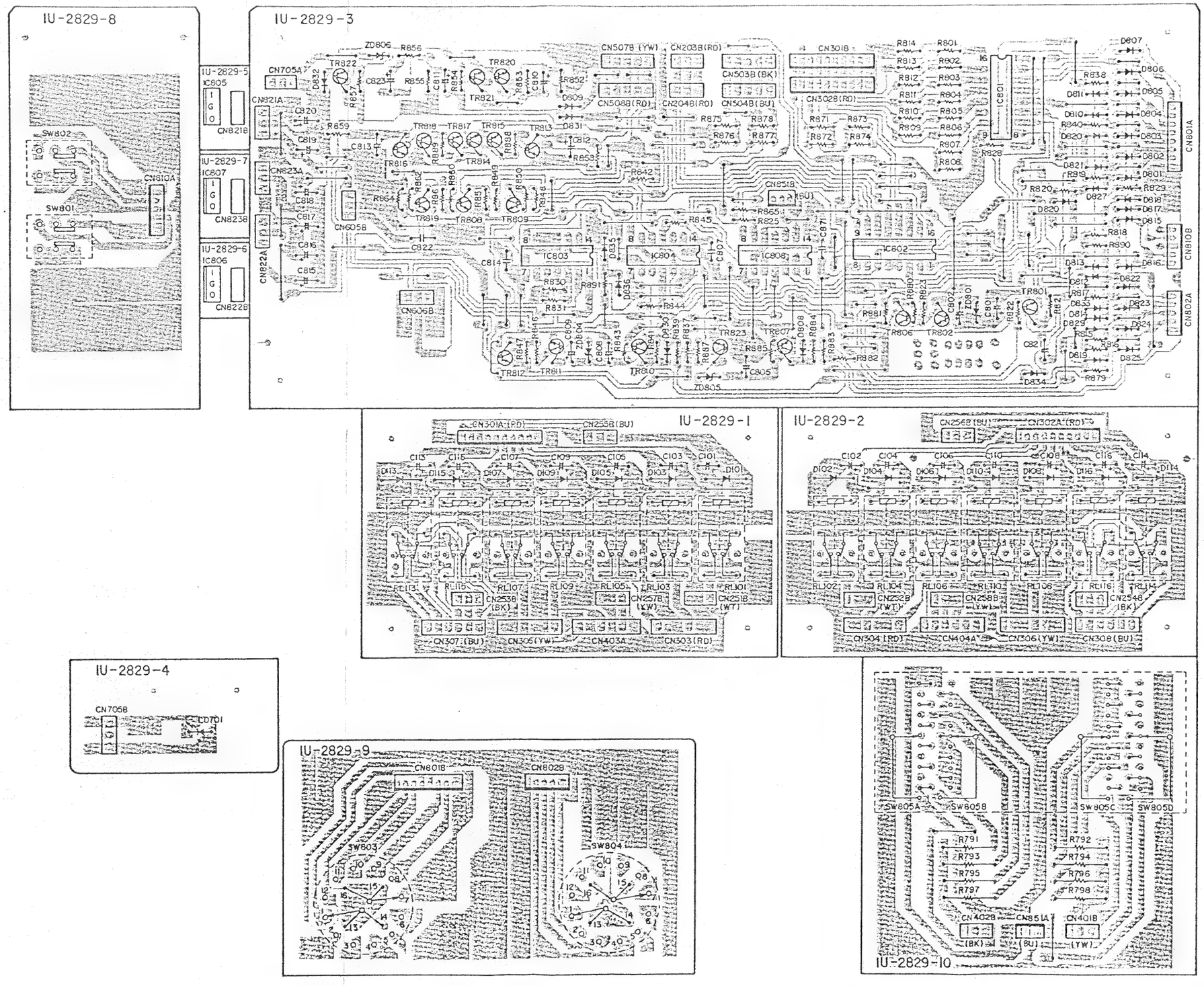


1U-2753 Power AMP. & OSC. Unit Ass'y




1U-2754-2
1U-2754-1
1U-2754-3
D508
C508
C504
R504
D506
D504
C510
CN504
6
R502
D502
C506
C502
CN502
6
(WT)
1
(RD)
C408
C404
D408
R404
D406
C410
CN506
8
R402
D404
C406
C402
D402
CN508A
1 2 3
D401
C401
C405
D403
R401
C409
D405
D407
CN503
R403
CN501
C403
C407
6
1
(RD)
(WT)
C501
C505
D501
R501
C509
D503
D505
CN505
8
R503
D507
C503
C507
CN507A
3 2 1
CN1068
3 2 1
D601

1U-2829 Control Unit Ass'y



NOTE FOR PARTS LIST

- Part indicated with the mark " ⊛ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ [redacted] have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

• Resistors

Ex.: RN (Type) 14K (Shape and performance) 2E (Power) 182 (Resistance) G (Allowable error) FR (Others)

RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

• Resistance

1 8 2 ⇒ 1800 ohm = 1.8 kohm
- 2-digit effective number.
- indicates number of zeros after effective number.

• Units: ohm

1 R 2 ⇒ 1.2 ohm
- 1-digit effective number.
- 2-digit effective number, decimal point indicated by R.

• Units: ohm

• Capacitors

Ex.: CE (Type) 04W (Shape and performance) 1H (Dielectric strength) 2R2 (Capacity) M (Allowable error) BP (Others)

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For charge and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

• Capacity (electrolyte only)

2 2 2 ⇒ 2200μF
- 2-digit effective number.
- indicates number of zeros after effective number.

• Units: μF.

2 R 2 ⇒ 2.2μF
- 1-digit effective number.
- 2-digit effective number, decimal point indicated by R.

• Units: μF.

• Capacity (except electrolyte)

2 2 2 ⇒ 2200pF = 0.0022μF
- (More than 2) — indicates number of zeros after effective number.
- 2-digit effective number.

• Units: μF.

2 2 1 ⇒ 220pF
- (0 or 1) — indicates number of zeros after effective number.
- 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF PRINTED WIRING BOARD

(1U-2747)INPUT(L) UNIT(Control Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
TR209	271 0094 919	Transistor 2SA970(BL)TPE2	
TR211	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR213	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR215	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR217	275 0042 905	Transistor 2SK373(Y)TPE2	
TR221	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR223	273 0187 932	Transistor 2SC2240(BL/GR)TPE2	
TR225	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR227	273 0324 009	Transistor 2SC3298(O/Y)	
TR229	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR231	271 0196 008	Transistor 2SA1306 O/Y	
TR233	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR241	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR243	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR301	273 0431 002	Transistor 2SC3067	
TR305	275 0042 905	Transistor 2SK373(Y)TPE2	
TR307	275 0042 905	Transistor 2SK373(Y)TPE2	
TR309	273 0281 003	Transistor 2SC2705(O/Y)	
TR313	271 0253 006	Transistor 2SA1240F/G	
TR317	275 0055 915	Transistor 2SK184C(GR)/(BL)	
TR319	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR321	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR323	275 0048 912	Transistor 2SK381(B)/(C)-T	
TR325	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR327	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR329	273 0431 002	Transistor 2SC3067	
TR333	275 0069 001	Transistor 2SK215	
TR335	275 0068 002	Transistor 2SJ78	
TR337	275 0069 001	Transistor 2SK215	
TR339	275 0068 002	Transistor 2SJ78	
TR343	274 0167 007	Transistor 2SD2437	
TR345	272 0128 008	Transistor 2SB1586	
TR347	275 0042 905	Transistor 2SK373(Y)TPE2	
TR351	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR349	275 0042 905	Transistor 2SK373(Y)TPE2	
TR401	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR403	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR405	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR407	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR409	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR411	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR413	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR415	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR417	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR419	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR421	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR423	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR425	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR427	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR429	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR431	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
D111	276 0049 914	Diode 1S2076ATE	
D117	276 0049 914	Diode 1S2076ATE	
D211	276 0049 914	Diode 1S2076ATE	
D215	276 0049 914	Diode 1S2076ATE	
D217	276 0049 914	Diode 1S2076ATE	
D219	276 0049 914	Diode 1S2076ATE	
D221	276 0049 914	Diode 1S2076ATE	
D223	276 0049 914	Diode 1S2076ATE	
D225	276 0049 914	Diode 1S2076ATE	
D241	276 0049 914	Diode 1S2076ATE	
D243	276 0049 914	Diode 1S2076ATE	
D301	276 0049 914	Diode 1S2076ATE	
D303	276 0049 914	Diode 1S2076ATE	
D305	276 0049 914	Diode 1S2076ATE	
D307	276 0049 914	Diode 1S2076ATE	
D311	276 0049 914	Diode 1S2076ATE	
D401	276 0049 914	Diode 1S2076ATE	
D403	276 0049 914	Diode 1S2076ATE	
ZD201	276 0299 942	Zener Diode HZ3A-1TE	
ZD203	276 0407 912	Zener Diode HZ6LA-1TD	
ZD301	276 0256 914	Zener Diode HZ16-1TE	
ZD303	276 0407 912	Zener Diode HZ6LA-1TD	
ZD307	276 0249 918	Zener Diode HZ18-3TD	
ZD309	276 0249 918	Zener Diode HZ18-3TD	
ZD311	276 0313 938	Zener Diode HZ20L-2TD	
ZD313	276 0313 938	Zener Diode HZ20L-2TD	
ZD351	276 0249 921	Zener Diode HZ18-1TE	
LD401	393 9503 905	LED SEL4414G(TP1)	
LD403	393 9503 905	LED SEL4414G(TP1)	
LD405	393 9503 905	LED SEL4414G(TP1)	
LD407	393 9503 905	LED SEL4414G(TP1)	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
VR301	211 6075 095	Adjust 470ohm (CERMET)	V06PB471
R205	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R207	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R211	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R213	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R215	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG
R217	241 2438 763	Carbon 10Kohm 1/2W	RD05A2H103J RMG
R219	241 2434 068	Carbon 1kohm 1/2W	RD05A2H102J RMG
R221	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R225	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R227	241 2445 057	Carbon 3.9kohm 1/2W	RD05A2H392J RMG
R229	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R231	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG

Ref.No	Part .No	Part Name	Remaks
R233	241 2448 753	Carbon 91kohm 1/2W	RD05A2H913JF RMG
R237	241 2438 734	Carbon 2.7kohm 1/2W	RD05A2H272J RMG
R239	241 2458 002	Carbon 560ohm 1/2W	RD05A2H561J RFA
R241	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG
R243	241 2434 725	Carbon 220ohm 1/2W	RD05A2H221JF RMG
R245	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG
R247	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R249	241 2442 720	Carbon 82ohm 1/2W	RD05A2H820JF RMG
R273	241 2448 724	Carbon 68kohm 1/2W	RD05A2H683JF RMG
R275	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S
R277	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S
)01	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R303	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R305	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG
R307	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG
R309	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG
R311	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG
R315	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG
R317	241 2444 786	Carbon 1.5kohm 1/2W	RD05A2H152J RMG
R319	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R321	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R323	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R325	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R327	241 2445 714	Carbon 2kohm 1/2W	RD05A2H202JF RMG
R329	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R331	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R333	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R335	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R337	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
39	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R341	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG
R343	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG
R345	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
R347	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
R349	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA
R351	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA
R353	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104J RMG
R355	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104J RMG
R401	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG
R403	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG
R405	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG
R407	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG
R409	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG
R411	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG
R413	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R415	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R417	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R419	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R421	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG

Ref.No	Part .No	Part Name	Remaks
R423	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R425	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R427	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R429	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R431	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R433	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R435	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R437	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R439	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R441	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R443	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R445	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R447	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R449	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R451	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R453	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R455	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R461	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R463	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R471	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R473	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R485	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243J RMG
R487	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243J RMG
R489	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222J RMG
R491	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222J RMG
R493	241 2438 763	Carbon 4.7Kohm 1/2W	RD05A2H472J RMG
R495	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162J RMG
R497	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162J RMG

CAPACITORS GROUP

C111	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C117	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C201	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C203	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C205	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C215	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C219	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C221	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C223	255 6187 019	Film 150pF/125V	CQ09S2B151KF B
C225	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C229	255 1265 965	Film 0.018µF/50V	CQ93M1H183J
C231	255 6175 076	Film 0.0015µF/125V	CQ09S2B152KF B
C233	255 6187 006	Film 56pF/125V	CQ09S2B560KF B
C235	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C237	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARSA
C239	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C241	255 6187 022	Film 680pF/125V	CQ09S2B681KF B
C245	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARSA
C247	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C249	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF

Ref.No	Part .No	Part Name	Remaks
C251	256 1035 910	Metallized 0.22µF/50V	CF93A1H224JT
C253	256 1034 953	Film 0.068µF/50V	CF93A1H683J
C261	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C263	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C265	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C287	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C301	255 6167 039	Film 47pF/125V	CQ09S2B470K B
C303	255 6167 039	Film 47pF/125V	CQ09S2B470K B
C305	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C313	255 6175 050	Film 39pF/125V	CQ09S2B390KF B
C315	255 6175 050	Film 39pF/125V	CQ09S2B390KF B
C317	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C319	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C321	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C323	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C325	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C327	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C329	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C331	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C333	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C335	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C337	255 4235 947	Film 0.022µF/100V	CQ93P2A223J NH
C339	255 4235 947	Film 0.022µF/100V	CQ93P2A223J NH
C341	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C343	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C351	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C353	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
C355	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C357	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C371	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C373	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C375	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C377	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C379	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C381	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C383	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C385	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C387	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C389	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C395	256 1054 001	Film 1µF/50V	CF93B1H105K GSG
C401	255 6175 063	Film 220pF/125V	CQ09S2B221KF B
C403	255 6175 063	Film 220pF/125V	CQ09S2B221KF B
C409	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C411	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C419	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C421	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C423	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C425	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS

Ref.No	Part .No	Part Name	Remaks
C429	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C431	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C445	255 6167 042	Film 470pF/125V	CQ09S2B471KF B
C461	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C463	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C465	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C467	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C469	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C471	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C473	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C475	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C481	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C483	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C485	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C487	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C489	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C491	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C493	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C495	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF

OTHER PARTS

RL111	214 0172 003	Relay (RY12W-OH)
RL117	214 0172 003	Relay (RY12W-OH)
RL209	214 0178 007	Relay (MR62-12USRY)
RL213	214 0172 003	Relay (RY12W-OH)
CN201	205 0190 036	3P NH Connector Base
CN203A	205 0277 030	3P EH Connector Base (RD)
CN205A	205 0653 036	3P VH Connector Base
CN251A	205 0233 032	3P EH Connector Base
CN253A	205 0278 039	3P EH Connector Base (BK)
CN255A	205 0276 031	3P EH Connector Base (BU)
CN257A	205 0296 037	3P EH Connector Base (YW)
CN405	205 0190 036	3P NH Connector Base

(1U-2748)INPUT(R) UNIT (Control Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
TR210	271 0094 919	Transistor 2SA970(BL)TPE2	
TR212	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR214	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR216	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR218	275 0042 905	Transistor 2SK373(Y)TPE2	
TR222	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR224	273 0187 932	Transistor 2SC2240(BL/GR)TPE2	
TR226	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR228	273 0324 009	Transistor 2SC3298(O/Y)	
TR230	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR232	271 0196 008	Transistor 2SA1306 O/Y	
.234	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR242	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR244	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR302	273 0431 002	Transistor 2SC3067	
TR306	275 0042 905	Transistor 2SK373(Y)TPE2	
TR308	275 0042 905	Transistor 2SK373(Y)TPE2	
TR310	273 0281 003	Transistor 2SC2705(O/Y)	
TR314	271 0253 006	Transistor 2SA1240F/G	
TR318	275 0055 915	Transistor 2SK184C(GR)/(BL)	
TR320	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR322	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR324	275 0048 912	Transistor 2SK381(B)/(C)-T	
TR326	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR328	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR330	273 0431 002	Transistor 2SC3067	
TR334	275 0069 001	Transistor 2SK215	
TR336	275 0068 002	Transistor 2SJ78	
TR338	275 0069 001	Transistor 2SK215	
.340	275 0068 002	Transistor 2SJ78	
TR344	274 0167 007	Transistor 2SD2437	
TR346	272 0128 008	Transistor 2SB1586	
TR348	275 0042 905	Transistor 2SK373(Y)TPE2	
TR350	275 0042 905	Transistor 2SK373(Y)TPE2	
TR352	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR402	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR404	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR406	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR408	275 0038 045	Transistor 2SK369(BL)/(GR)-C	
TR410	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR412	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR414	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR416	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR418	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR420	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR422	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR424	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR426	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR428	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR430	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR432	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
D112	276 0049 914	Diode 1S2076ATE	
D118	276 0049 914	Diode 1S2076ATE	
D212	276 0049 914	Diode 1S2076ATE	
D216	276 0049 914	Diode 1S2076ATE	
D218	276 0049 914	Diode 1S2076ATE	
D220	276 0049 914	Diode 1S2076ATE	
D222	276 0049 914	Diode 1S2076ATE	
D224	276 0049 914	Diode 1S2076ATE	
D226	276 0049 914	Diode 1S2076ATE	
D242	276 0049 914	Diode 1S2076ATE	
D244	276 0049 914	Diode 1S2076ATE	
D302	276 0049 914	Diode 1S2076ATE	
D304	276 0049 914	Diode 1S2076ATE	
D306	276 0049 914	Diode 1S2076ATE	
D308	276 0049 914	Diode 1S2076ATE	
D312	276 0049 914	Diode 1S2076ATE	
D402	276 0049 914	Diode 1S2076ATE	
D404	276 0049 914	Diode 1S2076ATE	
ZD202	276 0299 942	Zener Diode HZ3A-1TE	
ZD204	276 0407 912	Zener Diode HZ6LA-1TD	
ZD302	276 0256 914	Zener Diode HZ16-1TE	
ZD304	276 0407 912	Zener Diode HZ6LA-1TD	
ZD308	276 0249 918	Zener Diode HZ18-3TD	
ZD310	276 0249 918	Zener Diode HZ18-3TD	
ZD312	276 0313 938	Zener Diode HZ20L-2TD	
ZD314	276 0313 938	Zener Diode HZ20L-2TD	
ZD352	276 0249 921	Zener Diode HZ18-1TE	
LD402	393 9503 905	LED SEL4414G(TP1)	
LD404	393 9503 905	LED SEL4414G(TP1)	
LD406	393 9503 905	LED SEL4414G(TP1)	
LD408	393 9503 905	LED SEL4414G(TP1)	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
VR302	211 6075 095	Adjust 470ohm (CERMET)	V06PB471
R206	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R208	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R212	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R214	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R216	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG
R218	241 2438 763	Carbon 10Kohm 1/2W	RD05A2H103JF RMG
R220	241 2434 068	Carbon 1kohm 1/2W	RD05A2H102J RMG
R222	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R226	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R228	241 2445 057	Carbon 3.9kohm 1/2W	RD05A2H392J RMG

Ref. No.	Part No.	Part Name	Remaks
R230	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R232	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG
R234	241 2448 753	Carbon 91kohm 1/2W	RD05A2H913JF RMG
R238	241 2438 734	Carbon 2.7kohm 1/2W	RD05A2H272J RMG
R240	241 2458 002	Carbon 560ohm 1/2W	RD05A2H561J RFA
R242	241 2461 002	Carbon 22ohm 1W	RD05A3A220J RMG
R244	241 2434 725	Carbon 220ohm 1/2W	RD05A2H221JF RMG
R246	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG
R248	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R250	241 2442 720	Carbon 82ohm 1/2W	RD05A2H820JF RMG
R274	241 2448 724	Carbon 68kohm 1/2W	RD05A2H683JF RMG
R276	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S
R278	244 2052 928	Metal oxide 47ohm 1W	RS14B3A470JNBST S
R302	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R304	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R306	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG
R308	241 2448 740	Carbon 82kohm 1/2W	RD05A2H823JF RMG
R310	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG
R312	241 2438 721	Carbon 2.2kohm 1/2W	RD05A2H222JF RMG
R316	241 2441 763	Carbon 47ohm 1/2W	RD05A2H470JF RMG
R318	241 2444 786	Carbon 1.5kohm 1/2W	RD05A2H152J RMG
R320	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R322	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R324	241 2457 003	Carbon 220ohm 1/2W	RD05A2H221J RFA
R326	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R328	241 2445 714	Carbon 2kohm 1/2W	RD05A2H202JF RMG
R330	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R332	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R334	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R336	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R338	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R340	241 2458 060	Carbon 1kohm 1/2W	RD05A2H102J RFA
R342	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG
R344	241 2450 712	Carbon 430kohm 1/2W	RD05A2H434JF RMG
R346	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
R348	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
R350	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA
R352	241 2457 074	Carbon 430ohm 1/2W	RD05A2H431J RFA
R354	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104JF RMG
R356	241 2448 766	Carbon 100Kohm 1/2W	RD05A2H104JF RMG
R402	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG
R404	241 2447 796	Carbon 51kohm 1/2W	RD05A2H513JF RMG
R406	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG
R408	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG
R410	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG
R412	241 2447 712	Carbon 24kohm 1/2W	RD05A2H243JF RMG
R414	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R416	241 2447 754	Carbon 36kohm 1/2W	RD05A2H363JF RMG
R418	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG

Ref. No.	Part No.	Part Name	Remaks
R420	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R422	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R424	241 2444 760	Carbon 1.2kohm 1/2W	RD05A2H122JF RMG
R426	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R428	241 2456 046	Carbon 120ohm 1/2W	RD05A2H121J RFA
R430	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R432	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R434	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R436	241 2456 059	Carbon 130ohm 1/2W	RD05A2H131J RFA
R438	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R440	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R442	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R444	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R446	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R448	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R450	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R452	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R454	241 2444 731	Carbon 910ohm 1/2W	RD05A2H911JF RMG
R456	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102J RMG
R462	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R464	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R472	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R474	241 2434 767	Carbon 1Kohm 1/2W	RD05A2H102JF RMG
R486	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243JF RMG
R488	241 2447 712	Carbon 24Kohm 1/2W	RD05A2H243JF RMG
R490	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222JF RMG
R492	241 2438 721	Carbon 2.2Kohm 1/2W	RD05A2H222JF RMG
R494	241 2438 763	Carbon 4.7Kohm 1/2W	RD05A2H472JF RMG
R496	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162JF RMG
R498	241 2444 799	Carbon 1.6Kohm 1/2W	RD05A2H162JF RMG

CAPACITORS GROUP

C112	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C118	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C202	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C204	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C206	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C216	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C220	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C222	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C224	255 6187 019	Film 150pF/125V	CQ09S2B151KF B
C226	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C230	255 1265 965	Film 0.018µF/50V	CQ93M1H183J
C232	255 6175 076	Film 0.0015µF/125V	CQ09S2B152KF B
C234	255 6187 006	Film 56pF/125V	CQ09S2B560KF B
C236	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C238	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARSA
C240	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C242	255 6187 022	Film 680pF/125V	CQ09S2B681KF B
C246	254 4347 735	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARSA

Ref. No.	Part No.	Part Name	Remaks
C248	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C250	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C252	256 1035 910	Metallized 0.22µF/50V	CF93A1H224JT
C254	256 1034 953	Film 0.068µF/50V	CF93A1H683J T
C262	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C264	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C266	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C288	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C302	255 6167 039	Film 47pF/125V	CQ09S2B470K B
C304	255 6167 039	Film 47pF/125V	CQ09S2B470K B
C306	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
)14	255 6175 050	Film 39pF/125V	CQ09S2B390KF B
C316	255 6175 050	Film 39pF/125V	CQ09S2B390KF B
C318	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C320	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C322	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C324	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C326	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C328	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C330	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C332	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C334	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C336	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C338	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH
C340	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH
C342	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C344	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C352	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MCARS
C354	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
356	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C358	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C372	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C374	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C376	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C378	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C380	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C382	254 4461 718	Electrolytic 4.7µF/50V	CE04W1H4R7MC ARS
C384	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C386	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C388	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C390	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C396	256 1054 001	Film 1µF/50V	CF93B1H105K GSG
C402	255 6175 063	Film 220pF/125V	CQ09S2B221KF B
C404	255 6175 063	Film 220pF/125V	CQ09S2B221KF B
C406	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C408	255 6181 028	Film 33pF/400V	CQ09S2G330KF B
C410	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C412	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C414	255 6187 051	Film 330pF/125V	CQ09S2B331KF B
C416	255 6187 051	Film 330pF/125V	CQ09S2B331KF B
C420	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C422	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C424	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C426	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C430	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C432	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C446	255 6167 042	Film 470pF/125V	CQ09S2B471KF B
C462	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C464	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C466	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C468	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C470	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C472	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C474	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C476	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C482	255 6175 034	Film 100pF/400V	CQ09S2B101KF B
C484	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C486	255 6181 028	Film 33pF/400V	CQ9S2G330KF B
C488	255 6175 034	Film 100pF/400V	CQ09S2B101KF B
C490	255 6167 042	Film 470pF/125V	CQ09S2B471K B
C492	255 6181 028	Film 33pF/400V	CQ9S2G330KF B
C494	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C496	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF

OTHER PARTS

RL112	214 0172 003	Relay (RY12W-OH)
RL118	214 0172 003	Relay (RY12W-OH)
RL210	214 0178 007	Relay (MR62-12 USRY)
RL214	214 0172 003	Relay (RY12W-OH)
CN202	205 0190 036	3P NH Connector Base
CN204A	205 0277 030	3P EH Connector Base (RD)
CN206A	205 0653 036	3P VH Connector Base
CN252A	205 0233 032	3P EH Connector Base
CN254A	205 0278 039	3P EH Connector Base (BK)
CN256A	205 0276 031	3P EH Connector Base (BU)
CN258A	205 0296 037	3P EH Connector Base (YW)
CN406	205 0190 036	3P NH Connector Base

(1U-2749)OUTPUT UNIT(Control Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
IC701–704	263 0998 001	IC NJMOP-07D	
TR601,602	274 0167 007	Transistor 2SD2437	
TR603,604	272 0128 008	Transistor 2SB1586	
TR605,606	274 0167 007	Transistor 2SD2437	
TR607,608	272 0128 008	Transistor 2SB1586	
TR609–612	275 0042 905	Transistor 2SK373(Y)TPE2	
TR701,702	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR703–706	275 0038 029	Transistor 2SK369(GR)-C	
TR707,708	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR709–712	275 0038 029	Transistor 2SK369(GR)-C	
TR713,714	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR715–718	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR719,720	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR721,722	275 0069 001	Transistor 2SK215	
TR723,724	275 0068 002	Transistor 2SJ78	
TR731,732	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR733–736	275 0038 029	Transistor 2SK369(GR)-C	
TR737,738	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR739–742	275 0038 029	Transistor 2SK369(GR)-C	
TR743,744	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR745–748	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR749,750	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR751,752	275 0069 001	Transistor 2SK215	
TR753,754	275 0068 002	Transistor 2SJ78	
TR761,762	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR763,764	275 0038 029	Transistor 2SK369(GR)-C	
TR765,766	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR767,768	275 0038 029	Transistor 2SK369(GR)-C	
TR769,770	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR771–774	271 0168 900	Transistor 2SA1145(O)/(Y)TPE6	
TR775,776	273 0281 906	Transistor 2SC2705(O)/(Y)TPE6	
TR777,778	275 0069 001	Transistor 2SK215	
TR779,780	275 0068 002	Transistor 2SJ78	
D501,502	276 0049 914	Diode 1S2076ATE	
D503–506	276 0049 914	Diode 1S2076ATE	
D705–712	276 0049 914	Diode 1S2076ATE	
D713–716	276 0049 914	Diode 1S2076ATE	
D725–732	276 0049 914	Diode 1S2076ATE	
D733,734	276 0049 914	Diode 1S2076ATE	
D745–752	276 0049 914	Diode 1S2076ATE	
D755,756	276 0049 914	Diode 1S2076ATE	
D761–774	276 0049 914	Diode 1S2076ATE	
ZD601–604	276 0218 952	Zener Diode HZ9C-1TE	
ZD605–608	276 0249 918	Zener Diode HZ18-3TE	
ZD619–622	276 0313 938	Zener Diode HZ20L-2TD	
ZD701,702	276 0299 939	Zener Diode HZ3B-2TE	
ZD703,704	276 0236 934	Zener Diode HZ5C-1TE	
ZD721,722	276 0299 939	Zener Diode HZ3B-2TE	
ZD723,724	276 0236 934	Zener Diode HZ5C-1TE	
ZD741,742	276 0299 939	Zener Diode HZ3B-2TE	
ZD743,744	276 0236 934	Zener Diode HZ5C-1TE	
ZD771–778	276 0173 987	Zener Diode HZ6C-1TE	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
VR701,702	211 6122 003	Adjust 20ohm	V04PB200 CERMET
R603,604	241 2448 737	Carbon 75kohm 1/2W	RD05A2H753JF RMG
R605,606	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R607–610	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R611,612	241 2458 028	Carbon 680ohm 1/2W	RD05A2H681J RFA
R613,614	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R615,616	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
R617,618	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R619,620	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
R621–624	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
R625–628	241 2443 761	Carbon 470ohm 1/2W	RD05A2H471JF RMG
R641–644	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R701,702	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG
R703,704	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R705,706	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R707,708	241 2448 737	Carbon 75kohm 1/2W	RD05A2H753JF RMG
R709–712	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R713,714	241 2458 028	Carbon 680ohm 1/2W	RD05A2H681J RFA
R715,716	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
R717,718	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
R719,720	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R721,722	241 2455 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
R723–726	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100J RMG
R727–730	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
R731,732	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
R733,734	241 2445 798	Carbon 7.5kohm 1/2W	RD05A2H752J RMG
R735,736	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R737,738	241 2438 776	Carbon 6.8kohm 1/2W	RD05A2H682J RMG
R739,740	241 2448 708	Carbon 56kohm 1/2W	RD05A2H563JF RMG
R741,742	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100J RMG
R743,744	241 2443 761	Carbon 470ohm 1/2W	RD05A2H471JF RMG
R745,746	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R747,748	241 2450 725	Carbon 470kohm 1/2W	RD05A2H474JF RMG
R749,750	241 2442 788	Carbon 180ohm 1/2W	RD05A2H181J RMG
R751,752	241 2448 766	Carbon 100kohm 1/2W	RD05A2H104JF RMG
R753,754	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R755,756	241 2447 783	Carbon 47kohm 1/2W	RD05A2H473JF RMG
R757,758	241 2448 737	Carbon 75kohm 1/2W	RD05A2H753JF RMG
R759–762	241 2434 767	Carbon 1kohm 1/2W	RD05A2H102JF RMG
R763,764	241 2458 028	Carbon 680ohm 1/2W	RD05A2H681J RFA

Ref.No	Part .No	Part Name	Remaks
R765,766	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
R767,768	241 2445 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
R769,770	241 2456 020	Carbon 100ohm 1/2W	RD05A2H101J RFA
R771,772	241 2445 047	Carbon 47ohm 1/2W	RD05A2H560JF RFA
R773–776	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100J RMG
R777–780	241 2455 005	Carbon 33ohm 1/2W	RD05A2H330J RFA
R781,782	241 2438 789	Carbon 10kohm 1/2W	RD05A2H103J RMG
R783,784	241 2445 798	Carbon 7.5kohm 1/2W	RD05A2H752J RMG
R785,786	241 2440 706	Carbon 10ohm 1/2W	RD05A2H100JF RMG
R787,788	241 2438 776	Carbon 6.8kohm 1/2W	RD05A2H682J RMG
R789,790	241 2448 708	Carbon 56kohm 1/2W	RD05A2H563JF RMG
R791,792	241 2440 706	Carbon 10ohm 1/2W	RD05A100J RMG
1,794	241 2443 761	Carbon 470ohm 1/2W	RD05A2H471JF RMG
R795,796	241 2450 796	Carbon 1Mohm 1/2W	RD05A2H105JF RMG
R797,798	241 2450 725	Carbon 470kohm 1/2W	RD05A2H474JF RMG
CAPACITORS GROUP			
C601–604	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C605–608	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS
C611–614	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C615–618	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS
C619–622	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C623–626	254 4356 742	Electrolytic 470µF/50V	CE04W1H471 ARS
C627–630	255 6167 000	Film 0.01µF/125V	CQ09S2B103K B
C701,702	255 6167 042	Film 470pF/125V	CQ09S2B471KF B
C703,704	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C705,706	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
C707,708	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS
~09,710	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
..11,712	255 6181 044	Film 47pF/400V	CQ09S2G470KF B
C713,714	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C715–718	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C719,720	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
C721–724	254 4368 947	Electrolytic 220µF/25V	CE04W1E221M ASF
C725,726	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH
C727,728	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C729,730	254 4313 934	Electrolytic 220µF/25V	CE04W1E221M ASF
C731,732	255 6167 042	Film 470pF/125V	CQ09S2B471KF B
C733,734	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C735,736	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
C737,738	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS
C739,740	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C741,742	255 6181 044	Film 47pF/400V	CQ09S2G470KF B
C743,744	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C745–748	254 4356 755	Electrolytic 220µF/50V	CE04W1H221MC ARS
C749,750	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
C751–754	254 4368 947	Electrolytic 220µF/25V	CE04W1E221M ASF
C755,756	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH
C757,758	255 6187 047	Film 0.0047µF/125V	CQ09S2B472KF B

Ref.No	Part .No	Part Name	Remaks
C759,760	254 4313 934	Electrolytic 220µF/25V	CE04W1E221M ASF
C761,762	255 6175 034	Film 100pF/125V	CQ09S2B101KF B
C763,764	254 4356 739	Electrolytic 47µF/50V	CE04W1H470MC ARS
C765,766	255 6167 000	Film 0.01µF/125V	CQ09S2B103KF B
C767,768	254 4356 713	Electrolytic 100µF/50V	CE04W1H101MC ARS
C769,770	255 6187 048	Film 0.0047µF/125V	CQ09S2B472KF B
C771,772	255 6181 002	Film 10pF/400V	CQ09S2G100KF B
C773,774	255 6177 948	Film 100pF/50V	CQ09S1H101J SMT
C775,776	255 4235 743	Film 0.022µF/100V	CQ93P2A223JC NH
C777,778	256 1035 936	Film 0.33µF/50V	CF93A1H334J
C779–782	255 6176 004	Film 0.001µF/125V	CQ09S2B102JF B
C783,784	256 1045 007	Film 1µF/16V	CF93B1J105K SA
OTHER PARTS			
RL501–506	214 0172 003	Relay (RY12W-OH)	
RL701,702	214 0172 003	Relay (RY12W-OH)	
CN205,206	205 0653 036	3P VH Connector Base	
CN401	205 0296 037	3P EH Connector Base (YW)	
CN402	205 0278 039	3P EH Connector Base (BK)	
CN403,404	205 0233 061	6P EH Connector Base	
CN501,502	205 0278 068	6P EH Connector Base (BK)	
CN503	205 0278 055	5P EH Connector Base (BK)	
CN504	205 0276 057	5P EH Connector Base (BU)	
CN505	205 0233 032	3P EH Connector Base	
CN506	205 0277 030	3P EH Connector Base (RD)	
CN507	205 0296 053	5P EH Connector Base (YW)	
CN508	205 0277 056	5P EH Connector Base (RD)	
CN603,604	205 0233 090	9P EH Connector Base	
CN605,606	205 0233 032	3P EH Connector Base	
CN701,702	205 0653 065	6P VH Connector Base	
CN703,704	205 0653 081	8P VH Connector Base	

(1U-2753) POWER AMP & OSC UNIT (Power Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
IC101	268 0073 905	IC ICP-N15T	
IC151	262 2151 005	IC TLP620(GB)	
IC201	263 0516 001	IC NJM7812FA	
IC202	263 0507 007	IC NJM78M15FA	
IC203	263 0561 001	IC NJM7915FA	
IC204,205	265 0030 004	IC NJM4558DD	
IC301,302	263 0284 003	IC M5219P	
TR151	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR201	275 0039 002	Transistor 2SK362(GR)/(BL)	
TR202–204	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR205	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR206,207	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR210	273 0253 918	Transistor 2SC2878(A/B)TPE2	
TR215–217	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR220,221	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR223	274 0136 012	Transistor 2SD1913(R/S)	
TR231	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR233	269 0026 900	Transistor RN2202(10K-10K)T	
TR234	274 0136 012	Transistor 2SD1913(R/S)	
TR235	275 0042 905	Transistor 2SK373(Y)TPE2	
TR301	273 0235 923	Transistor 2SC18414-T(E/F)	
TR303	271 0131 924	Transistor 2SA988-T(E/F)	
TR304	271 0131 924	Transistor 2SA988-T(E/F)	
TR305,306	273 0235 923	Transistor 2SC18414-T(E/F)	
TR307,308	274 0136 012	Transistor 2SD1913(R/S)	
TR314	274 0136 012	Transistor 2SD1913(R/S)	
TR315	272 0093 010	Transistor 2SB1274(R/S)	
TR316,317	275 0043 043	Transistor 2SK381(C)	
D101–104	276 0553 905	Diode 1SR35-200A(T93X)	
D105	276 0424 005	Diode 4D4B42(LC1)	
D151	276 0049 914	Diode 1S2076ATE	
D201–205	276 0553 905	Diode 1SR35-200A(T93X)	
D207,208	276 0553 905	Diode 1SR35-200A(T93X)	
D210	276 0553 905	Diode 1SR35-200A(T93X)	
D211	276 0370 900	Diode 1SS106TD	
D212–215	276 0553 905	Diode 1SR35-200A(T93X)	
D217	276 0553 905	Diode 1SR35-200A(T93X)	
D221	276 0553 905	Diode 1SR35-200A(T93X)	
D303–310	276 0049 914	Diode 1S2076ATE	
D315	276 0049 914	Diode 1S2076ATE	
ZD209	276 0236 905	Zener Diode HZ5B-1TE	
ZD225	276 0236 905	Zener Diode HZ5B-1TE	
ZD227–229	276 0218 952	Zener Diode HZ9C-1TE	
ZD301–304	276 0299 926	Zener Diode HZ3C-1TE	
ZD311,312	276 0220 911	Zener Diode HZ24-1TE	

Ref.No	Part .No	Part Name	Remaks
RESISTORS GROUP			
VR301,302	211 6075 024	Adjust 4.7kohm (CERMET)	V06PB472 (CERMET)
R151–154	244 2055 912	Metal oxide film 0.47ohm 1W (Non-burning type)	RS14B2E3AR47JNBST(S)
R155	241 2379 987	Carbon 1Kohm 1/4W (Non-burning type)	RD14B2E102JNBST
R156	244 2383 986	Carbon 47Kohm 1/4W	RD14B2E473JNBST
R217	245 2342 000	Metal film 100Kohm 1/4W 1%	RN14K2E104F
R218	245 2318 005	Metal film 8.2Kohm 1/4W 1%	RN14K2E822F
R247,249	241 2375 907	Carbon 10ohm 1/4W (Non-burning type)	RD14B2E100JNBST
R253	241 2375 907	Carbon 10ohm 1/4W (Non-burning type)	RD14B2E100JNBST
R265	245 2289 008	Metal film 390ohm 1/4W 1%	RN14K2E391F
R304	245 2304 006	Metal film 2.2Kohm 1/4W 1%	RN14K2E222F
R305	245 2303 007	Metal film 2Kohm 1/4W 1%	RN14K2E202F
R311,312	241 2377 947	Carbon 100ohm 1/4W (Non-burning type)	RD14B2E101JNBST
R315,316	241 2377 947	Carbon 100ohm 1/4W (Non-burning type)	RD14B2E101JNBST
R317,318	241 2376 964	Carbon 47ohm 1/4W (Non-burning type)	RD14B2E470JNBST
R319,320	241 2376 964	Carbon 47ohm 1/4W (Non-burning type)	RD14B2E470JNBST
R321–324	241 2379 987	Carbon 1Kohm 1/4W (Non-burning type)	RD14B2E102JNBST
R325,326	243 2039 003	Winding 0.33ohm 5W	RW99=3HR33K
R331	245 2325 001	Metal film 18Kohm 1/4W 1%	RN14K2E183F
R332	245 2327 009	Metal film 22Kohm 1/4W 1%	RN14K2E223F
R341,342	241 2387 940	Carbon 4.7ohm 1/4W (Non-burning type)	RD14B2E4R7JNBST
R350	244 2043 937	Metal oxide film 10ohm 1W (Non-burning type)	RS14B3A100JNBST(S)
CAPACITORS GROUP			
⚠C101	256 8023 006	Film 0.01µF/250VAC	CF93A2EAC103M
C102	256 1042 903	Metallized 0.1µF/250V	CF93A2E104KT
C105,106	254 6180 000	Electrolytic 4700µF/63V	CE68W1J472M DL
C108	256 8023 006	Metallized 0.01µF/250VAC	CF93A2EAC103M
C151	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
⚠C152	256 8023 006	Film 0.01µF/250V AC	CF93A2EAC103M
C201,202	256 1035 936	Film 0.33µF/50V	CQ92M1H334JT
C203	254 4313 963	Electrolytic 1µF/50V	CE04W1H010MT ASF
C205	255 4199 902	Film 0.1µF/50V	CQ92M1H104JT MRZ
C207,208	255 4199 902	Film 0.1µF/50V	CQ92M1H104JT MRZ
C210	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C211	254 4313 921	Electrolytic 22µF/50V	CE04W1H220MT ASF

Ref.No	Part .No	Part Name	Remaks
C212,213	255 4199 902	Film 0.1μF/50V	CQ92M1H104JT MRZ
C214	254 4313 947	Electrolytic 4.7μF/50V	CE04W1H4R7MT ASF
C215,216	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C217,218	254 4387 012	Electrolytic 220μF/50V	CE04W1H222M ASF
C219	254 4313 918	Electrolytic 10μF/50V	CE04W1H100MT ASF
C220	254 4250 929	Electrolytic 100μF/6.3V	CE04W0J101MT SME
C222	254 4387 708	Electrolytic 470μF/50V	CE04W1H471MT ASF
C221	254 4313 934	Electrolytic 47μF/50V	CE04W1H470MT ASF
C223	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C224	254 4481 905	Electrolytic 1μF/100V	CE04W2A010MT ASF
C226	253 1100 901	Ceramic 100pF/50V	CK45B1H101KT
C227	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C228	254 4313 934	Electrolytic 47μF/50V	CE04W1H470MT ASF
C229	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C231	254 4452 701	Electrolytic 47μF/50V	CE04W1H470MT ASF
C241	254 4313 918	Electrolytic 10μF/50V	CE04W1H100MT ASF
C242	254 4250 929	Electrolytic 100μF/6.3V	CE04W0J101MT SME
C243	254 4313 950	Electrolytic 100μF/50V	CE04W1H101MT ASF
C244	255 1251 911	Film 0.0022μF/50V	CQ92M1H222JT MRZ
C245	253 9036 909	Ceramic 0.1μF/25V	CK45=1E104ZT
C251	253 1181 904	Ceramic 0.01μF/50V	CK45F1H103ZT (DD-3)
C261	254 4313 963	Electrolytic 1μF/50V	CE04W1H010MT ASF
C262	254 4313 918	Electrolytic 10μF/50V	CE04W1H100MT ASF
C301	256 1035 091	Metallized 1μF/50V	CF93A1H105J
C302	254 4313 918	Electrolytic 10μF/50V	CE04W1H100MT ASF
C303	255 1251 940	Film 0.0047μF/50V	CQ92M1H472JT MRZ
C304	255 4199 902	Film 0.1μF/50V	CQ92M1H104JT MRZ
C305	254 4313 918	Electrolytic 10μF/50V	CE04W1H100MT ASF
C308	254 4313 798	Electrolytic 220μF/50V	CE04W1H221MC ASF
C309	255 6152 099	Film 10pF/250V	CQ09S2E100J
C310,311	254 4313 798	Electrolytic 220μF/50V	CE04W1H221MC ASF
C312	253 1100 901	Ceramic 100pF/50V	CK45B1H101KT
C313	254 4313 798	Electrolytic 220μF/50V	CE04W1H221MC ASF
C315–318	254 4313 798	Electrolytic 220μF/50V	CE04W1H221MC ASF
C319	254 4313 934	Electrolytic 47μF/50V	CE04W1H470MT ASF
C321	255 4224 903	Film 0.047μF/50V	CQ92M1H473JT MRZ
C324	255 1249 907	Film 470pF/50V	CQ93M1H471JT
C327,328	254 4313 918	Electrolytic 10μF/50V	CE04W1H100MT ASF
C341–344	255 4199 986	Film 0.001μF/50V	CQ92M1H102JT MRZ
C351	256 1035 091	Metallized 1μF/50V	CF93A1H105J
C352	255 4199 986	Film 0.001μF/50V	CQ92M1H102JT MRZ
C353,354	254 4313 934	Electrolytic 47μF/50V	CE04W1H470MT ASF

OTHER PARTS

RL151	214 0142 004	Relay(TV-5)	
RL201	214 0127 003	Relay(RY-12W)	
RL301	214 0142 004	Relay(TV-5)	
P001	279 0034 041	Posistor (PTH9M04BD222TS2F333)	

Ref.No	Part .No	Part Name	Remaks
⚠SW101	212 1031 008	Power Switch (TV-5)	
	212 0365 005	Rotary Switch (25)	
CN020	205 0581 001	2P VH Connector Base	
CN101	205 0948 000	3P VH Connector Base	
CN102	205 0581 098	3P VH Connector Base	
CN103	205 0833 034	3P VH Connector Base (YW)	
CN104A,B	205 0233 074	7P EH Connector Base	
CN106B	205 0190 036	3P NH Connector Base	
CN120	205 0453 003	2P VH Connector Base (L)	
CN151	205 0833 018	3P VH Connector Base (BK)	
CN152A	205 0947 001	2P VH Connector Base (BU)	
CN152B	205 0581 085	2P VH Connector Base	
CN201A,B	205 0233 032	3P EH Connector Base	
CN202	205 0233 032	3P EH Connector Base	
CN203A,B	205 0233 045	4P EH Connector Base	
CN301,302	205 0833 005	3P VH Connector Base (RD)	
CN507B	205 0278 039	3P EH Connector Base (BK)	
CN508B	205 0296 037	3P EH Connector Base (YW)	
⚠F101	206 1035 067	Fuse T2.5A	
⚠F103,104	206 1035 009	Fuse T3.15A	
TP001,002	205 0653 036	3P VH Connector Base	

(1U-2754)POWER SUPPLY UNIT(Power Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
D401–408	276 0348 000	Diode S2K20F	
D501–508	276 0348 000	Diode S2K20F	
D601	393 9517 904	LED SEL-2410E(TP2)	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
R401–404	241 2447 084	Carbon 47kohm 1/2W	RD05A2H473J RMG
R501–504	241 2447 084	Carbon 47kohm 1/2W	RD05A2H473J RMG
CAPACITORS GROUP			
C401–404	254 4435 715	Electrolytic 100µF/50V	CE04W1H101MC ARSA
C405–408	254 4461 721	Electrolytic 4700µF/50V	CE04W1H472MC ARS
C409,410	256 8023 006	Metallized 0.01µF/250VAC	CF93A2EAC103M
C501–504	254 4435 715	Electrolytic 100µF/50V	CE04W1H101MC ARSA
C505–508	254 4461 721	Electrolytic 4700µF/50V	CE04W1H472MC ARS
C509,510	256 8023 006	Metallized 0.01µF/250VAC	CF93A2EAC103M
OTHER PARTS			
CN106B	205 0190 036	3P NH Connector Base	
CN501,502	205 0907 009	6P VH Connector Base(RD)	
CN503,504	205 0653 065	6P VH Connector Base	
CN505,506	205 0653 081	8P VH Connector Base	
CN507A	205 0278 039	3P EH Connector Base(BK)	
CN508A	205 0296 037	3P EH Connector Base(YW)	

(1U-2829) CONTROL UNIT (Control Unit)

Ref.No	Part .No	Part Name	Remaks
SEMICONDUCTORS GROUP			
IC801,802	263 0917 008	IC LB1710	
IC803	262 0849 005	IC HD74HC10P	
IC804	262 1434 008	IC TC74HC11AP	
IC805	263 0986 000	IC NJM7820FA(S)	
IC806	263 0809 006	IC NJM7805FA(S)	
IC807	263 0801 004	IC NJM7812FA(S)	
IC808	262 1321 001	IC TC74HC32AP	
TR801,802	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR806–811	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR812	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR815	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR816,817	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR818	271 0102 908	Transistor 2SA1015(Y)TPE2	
TR819–821	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR813,814	273 0198 918	Transistor 2SC1815(BL)TPE2	
TR822	269 0029 907	Transistor RN1204	
TR823	273 0198 918	Transistor 2SC1815(BL)TPE2	
D101–110	276 0049 914	Diode 1S2076ATE	
D113–116	276 0049 914	Diode 1S2076ATE	
D801–825	276 0432 903	Diode 1SS270A	
D827–836	276 0432 903	Diode 1SS270A	
ZD801	276 0469 905	Zener Diode HZS9C-1TD	
ZD804,805	276 0469 905	Zener Diode HZS9C-1TD	
ZD806	276 0466 908	Zener Diode HZS7C-1TD	
LD701	393 9517 904	LED SEL-2410E(TP2)	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
R791,792	241 2443 716	Carbon 270ohm 1/2W	RD05A2H271JF RMG
R793,794	241 2443 729	Carbon 330ohm 1/2W	RD05A2H331JF RMG
R795,796	241 2443 745	Carbon 390ohm 1/2W	RD05A2H391JF RMG
R797,798	241 2444 715	Carbon 750ohm 1/2W	RD05A2H751JF RMG
R801–814	244 2043 908	Metal Oxide Film 680ohm 1W (Non-burning type)	RS14B3A681JNBST S
R871–878	244 2043 908	Metal Oxide Film 680ohm 1W (Non-burning type)	RS14B3A681JNBST S
CAPACITORS GROUP			
C101–110	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C113–116	254 4313 950	Electrolytic 100µF/50V	CE04W1H101MT ASF
C801	254 4313 976	Electrolytic 2.2µF/50V	CE04W1H2R2MT ASF
C802	254 4368 705	Electrolytic 10µF/25V	CE04W1E100MT ASF
C803	254 4368 734	Electrolytic 100µF/25V	CE04W1E101MT ASF
C804	254 4368 705	Electrolytic 10µF/25V	CE04W1E100MT ASF
C805	254 4368 905	Electrolytic 10µF/25V	CE04W1E100MT ASF
C806	254 4368 705	Electrolytic 10µF/25V	CE04W1E100MT ASF

Ref.No	Part .No	Part Name	Remaks
C807	253 1170 902	Ceramic 0.1μF/50V	CK93=1H104ZT
C808	254 4368 905	Electrolytic 10μF/25V	CE04W1E100MT ASF
C809	254 4368 705	Electrolytic 10μF/25V	CE04W1E100MT ASF
C810,811	254 4313 976	Electrolytic 2.2μF/50V	CE04W1H2R2MT ASF
C812,813	254 4382 716	Electrolytic 1000μF/16V	CE04W1C102MC ASF
C814	253 1170 902	Ceramic 0.1μF/50V	CK93=1H104ZT
C815–818	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C819,820	254 4313 921	Electrolytic 22μF/50V	CE04W1H220MT ASF
C871	253 1170 902	Ceramic 0.1μF/50V	CK93=1H104ZT
C821	254 4313 976	Electrolytic 2.2μF/50V	CE04W1H2R2MT ASF
C822	253 9039 906	Ceramic 0.1μF/25V	CK45=1E104ZT
C823	254 4313 989	Electrolytic 33μF/50V	CE04W1H330MT ASF

OTHER PARTS

RL101–110	214 0172 003	Relay (RY12W-OH)	
RL113–116	214 0172 003	Relay (RY12W-OH)	
SW801,802	212 1115 005	2P Push Switch	
SW803	212 0357 013	Rotary Switch(1-7)	INPUT SELECT
SW804	212 0358 009	Rotary Switch(2-4)	REC/OUT SELECT
SW805A–D	212 0364 006	Rotary Switch(4-11)	
CN203B,204B	205 0277 030	3P EH Connector Base (RD)	
CN251B,252B	205 0233 032	3P EH Connector Base	
CN253B,254B	205 0278 039	3P EH Connector Base (BK)	
CN255B,256B	205 0276 031	3P EH Connector Base (BU)	
CN257B,258B	205 0296 037	3P EH Connector Base (YW)	
CN301A,B	205 0271 007	10P PH Connector Base	
CN302A,B	205 0321 009	10P PH Connector Base (RD)	
CN303,304	205 0277 069	6P EH Connector Base (RD)	
CN305,306	205 0296 066	6P EH Connector Base (YW)	
CN307,308	205 0276 060	6P EH Connector Base (BU)	
CN401B	205 0296 037	3P EH Connector Base (YW)	
CN402B	205 0278 039	3P EH Connector Base (BK)	
CN403A,404A	205 0233 061	6P EH Connector Base	
CN503B	205 0278 055	5P EH Connector Base (BK)	
CN504B	205 0276 057	5P EH Connector Base (BU)	
CN508B	205 0277 056	5P EH Connector Base (RD)	
CN605,606	205 0233 032	3P EH Connector Base	
CN705A,B	205 0296 037	3P EH Connector Base (YW)	
CN801A,B	205 0271 081	8P PH Connector Base	
CN802A,B	205 0271 052	5P PH Connector Base	
CN810A,B	205 0322 053	5P PH Connector Base (BU)	
CN851A,B	205 0322 037	3P PH Connector Base (BU)	

PARTS LIST OF PACKING & ACCESSORIES

CNTROL UNIT

Ref.No	Part No	Part Name	Remaks	Q'ty
	505 9102 019	Poly Cover	900 x 450	1
	504 9102 029	Styrene Paper	900 x 700	1
	503 9268 009	Cushion		2
	501 9263 011	Carton Case		1

POWER UNIT

Ref.No	Part No	Part Name	Remaks	Q'ty
	505 9102 019	Poly Cover	900 x 450	1
	504 9102 029	Styrene Paper	900 x 700	1
	503 9268 009	Cushion		2
	501 9263 008	Carton Case		1
	505 8006 019	Envelope	225 x 380	1
	511 9394 000	Operating Instructions		1
	515 0671 106	Service Station List (EX)		1
	505 0076 115	Poly Cover		1
	204 6505 004	12P DC Cord		2
⚠	206 2118 006	AC Cord With Plug	Europe Only	1
	515 0690 006	DEL Warranty Home	U.S.A Only	1

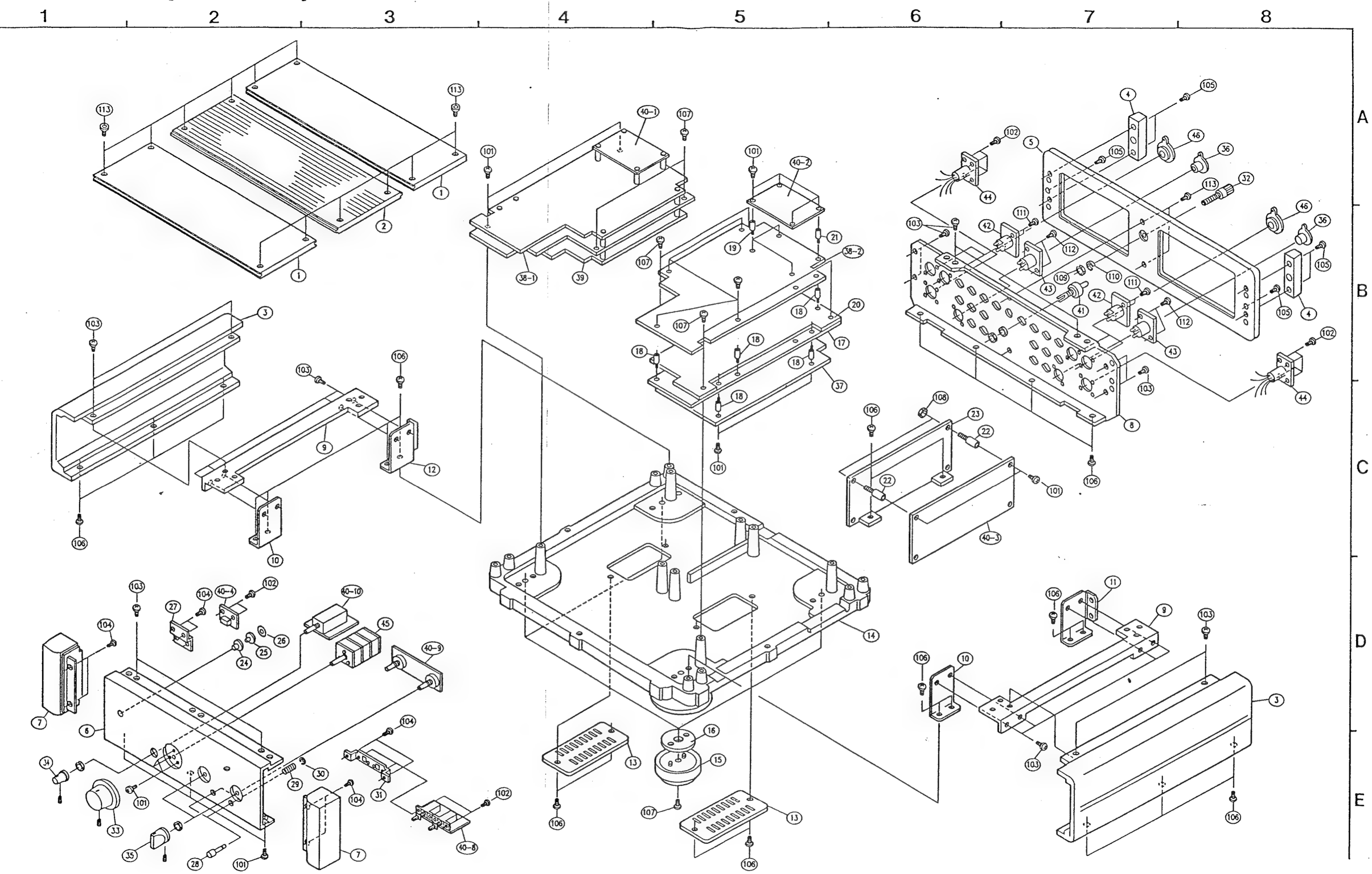
WARNING:

- Parts marked with " ⚠ " and/or shading have special characteristics important to safety.
- Part indicated with the mark " ◉ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.

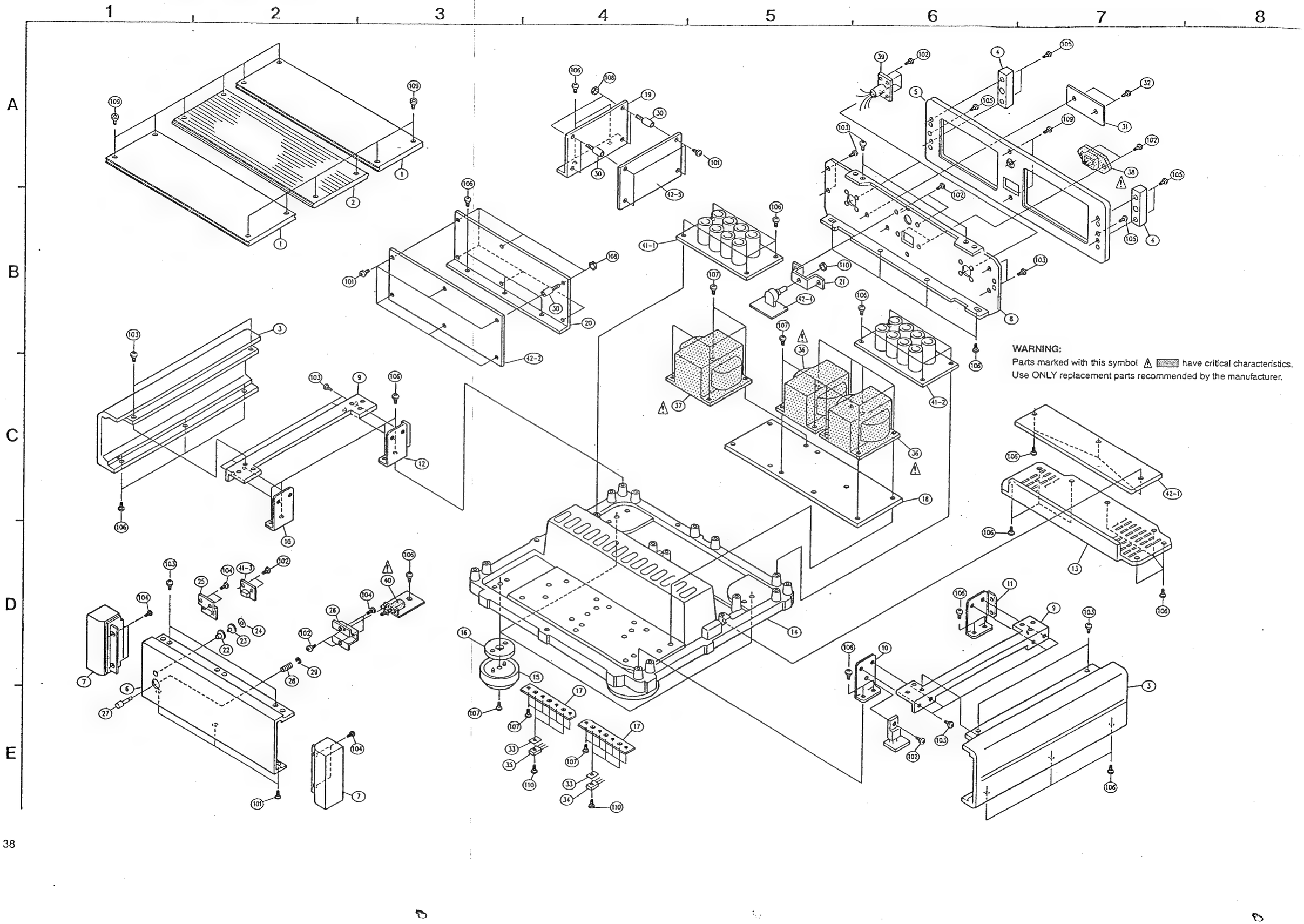
PARTS LIST OF EXPLODED VIEW (UPRAS1-C)

Ref.No	Part No	Part Name	Remaks
1	144 9199 005	Top Plate	
2	144 9200 017	Top Grille	
3	144 2301 308	Side Panel	
4	144 2302 103	Back Foot	
5	144 9204 107	Rear Panel (C)-1	
6	GEN 7668	F.P Guide (C) Sub Ass	
7	144 2300 008	Side ESC	
8	105 9248 304	Rear Panel (C)-2	
9	411 9127 100	Side Chassis	
10	412 9427 104	Bracket (F)	
11	412 9429 005	Bracket (R-R)	
12	412 9430 007	Bracket (R-L)	
13	105 9249 002	Bottom Cover	
14	411 9130 032	Base Chassis (C) (KK)	
15	104 0267 006	Foot Ass'y	
16	414 9099 020	Damp Plate (FT)	
17	414 9162 203	Shield Plate-A	
18	443 0900 132	P.W.B.Support	
19	443 0900 161	P.W.B.Support	
20	414 9175 009	Damp Plate-A	
21	443 0900 158	P.W.B.Support	
22	443 0900 116	P.W.B.Support	
23	414 9163 105	Shield Plate-B	
24	114 0121 000	LED Ring	
25	143 9107 007	Lens (Input)	
26	477 0211 002	InsulationWasher	
27	412 9425 009	Bracket (LED)	
28	113 9300 007	Push Knob Ass'y (S)	
29	463 9071 008	Spring	
30	476 1003 009	3E Ring	
31	412 9424 107	Push SW Bracket (2P)	
32	205 0804 005	Gnd Terminal	
33	112 9116 104	Knob Ass'y (M)	
34	112 9120 006	Knob Ass'y (B)	
35	112 9119 004	Knob Ass'y (F)	
36	414 9077 000	Dust Cap-PDC	
37	1U- 2748	Input (R) Unit Ass'y	
38	1U- 2749	Output Unit Ass'y	
38-1	1U- 2749 D-1	Output (L) Unit	
38-2	1U- 2749 D-1	Output (R) Unit	
39	1U- 2747	Input (L) Unit Ass'y	
40	1U-2829	Control Unit Ass'y	
40-1	1U-2829-1	Relay (L) Unit	
40-2	1U-2829-2	Relay (R) Unit	
40-3	1U-2829-3	Protect Unit	
40-4	1U-2829-4	LED Unit	
40-8	1U-2829-8	Push SW Unit	
40-9	1U-2829-9	Rotary SW Unit	
40-10	1U-2829-10	BAL. VOL Unit	
41	204 8441 001	1P Pin Jack	
42	205 0837 001	3P Cannon Connector	
43	203 5039 002	3P Cannon Connector	
44	204 6511 001	12P DC Connector(2)	
45	GEN 3175	Attenuator Sub	
46	414 9078 009	Dust Cap-SDC	
101	471 3832 008	4x8 CBS-CU	
102	473 7002 021	3x8 CBTS (S)-B	
103	473 8034 001	3x8 CBTS (S)-CU	
104	471 3837 003	3x4 CBS-CU	
105	473 7005 015	3x12 CBTS (S)-Z	
106	471 3840 003	4x6 CBS-CU	
107	471 3840 016	4x14 CBS-CU	
108	475 6164 007	Nut-W	
109	475 6008 006	4N	
110	475 2004 004	4SW ZN	
111	473 7012 008	3x10 CFTS (S)-N	
112	473 7515 000	2.6x8 CBTS (P)-N	
113	476 3802 004	Socket Screw (4x10)	

EXPLODED VIEW [CONTROL UNIT]



EXPLODED VIEW [POWER UNIT]



WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST OF EXPLODED VIEW (UPRAS1-P)

Ref.No	Part No	Part Name	Remaks
1	144 9199 005	Top Plate	
2	144 9200 004	Top Grille	
3	144 2301 308	Side Panel	
4	144 2302 103	Back Foot	
5	144 9203 108	Rear Panel (P)-1	
6	GEN 7661	F.P Guide (P) Sub Ass	
7	144 2300 008	Side ESC	
8	105 9247 101	Rear Panel (P)-2	
9	411 9127 100	Side Chassis	
10	412 9427 104	Bracket (F)	
11	412 9429 005	Bracket (R-R)	
12	412 9430 007	Bracket (R-L)	
13	105 9250 208	Bottom Cover	
14	411 9129 137	Base Chassis (P) (KK)	
15	104 0267 006	Foot Ass'y	
16	414 9099 020	Damp Plate (FT)	
17	412 9426 105	TR Holder	
18	414 9168 207	P.T Damper	
19	412 9422 002	PWB Bracket-P	
20	414 9166 102	Shield Plate-2	
21	412 9435 109	SW Bracket	
22	114 0121 000	LED Ring	
23	143 9107 007	Lens (Input)	
24	477 0211 002	InsulationWasher	
25	412 9425 009	Bracket (LED)	
26	412 9423 001	Power SW Bracket	
27	113 1625 007	P.Knob Ass'y	
28	463 9071 008	Spring	
29	476 1003 009	3E Ring	
30	443 0900 132	P.W.B.Support	
31	133 9010 139	Rating Plate	
32	479 0011 004	Rivet	
33	415 0234 007	Insulating Sheet	
34	275 0080 006	2SJ216	TR309,311
35	275 0081 005	2SK1303	TR308,310
⚠ 36	233 6148 003	Power Trans	
⚠ 37	233 6148 002	Power Trans	Multi-Voltage
⚠ 37	233 6150 004	Power Trans	Europe
⚠ 37	233 6162 005	Power Trans	USA
⚠ 38	203 3962 003	AC Inlet	USA&Multi-Voltage
39	204 6506 003	12P DC Connector	
⚠ 40	212 1031 008	Power Switch	
41	1U- 2754	P.Supply Unit Ass'y	
41-1	1U- 2754 D-1	P.Supply (L) Unit	
41-2	1U- 2754 D-2	P.Supply (R) Unit	
41-3	1U- 2754 D-3	LED Unit	

Ref.No	Part No	Part Name	Remaks
42	1U- 2753 -D	Power Amp Unit Ass'y	Multi-Voltage
42	1U- 2753 -B	Power Amp Unit Ass'y	Europe
42	1U- 2753 -A	Power Amp Unit Ass'y	USA
42-1	1U- 2753 D-1	Power Amp Unit	Multi-Voltage
42-1	1U- 2753 B-1	Power Amp Unit	Europe
42-1	1U- 2753 A-1	Power Amp Unit	USA
42-2	1U- 2753 D-2	OSC&Protect Unit	Multi-Voltage
42-2	1U- 2753 B-2	OSC&Protect Unit	Europe
42-2	1U- 2753 A-2	OSC&Protect Unit	USA
42-4	1U-2753-D4	Rotary SW Unit	Multi-Voltage
42-4	1U-2753-B4	Rotary SW Unit	Europe
42-4	1U-2753-A4	Rotary SW Unit	USA
42-5	1U-2753-D5	Fuse Unit	Multi-Voltage
42-5	1U-2753-B5	Fuse Unit	Europe
42-5	1U-2753-A5	Fuse Unit	USA
101	471 3832 008	3x8 CBS-CU	
102	473 7002 021	3x8 CBTS (S)-B	
103	473 8034 001	3x8 CBTS (B)-CU	
104	471 3837 003	3x4 CBS-CU	
105	471 7005 015	3x12 CBTS (S)-Z	
106	471 3840 003	4x6 CBS-CU	
107	471 3840 016	4x14 CBS-CU	
108	475 6164 007	Nut-W	
109	476 3802 004	Socket Screw (4x10)	
110	470 0012 022	3x12 CPS SW W	

CONNECTOR PIN FUNCTION (CONTROL UNIT)

Pin	CN201
1	PHONO(L)
2	GND
3	GND
	CN202
1	PHONO(R)
2	GND
3	GND
	CN203
1	+12V
2	SUBSONIC
3	EQPOWER
	CN204
1	+12V
2	SBSONIC
3	EQPOWER
	CN205
1	+B
2	GND
3	-B
	CN206
1	+B
2	GND
3	-B
	CN251
1	EQOUT(L)
2	GND
3	GND
	CN252
1	EQOUT(R)
2	GND
3	GND
	CN253
1	HOT(L)
2	GND
3	COLD(L)
	CN254
1	HOT(R)
2	GND
3	COLD(R)
	CN255
1	RELAY+B
2	BAL/UNBAL
3	BAL/UNBAL
	CN256
1	RELAY+B
2	BAL/UNBAL
3	BAL/UNBAL
	CN257
1	SOURCE(L)
2	GND
3	GND
	CN258
1	SOURCE(R)
2	GND
3	GND

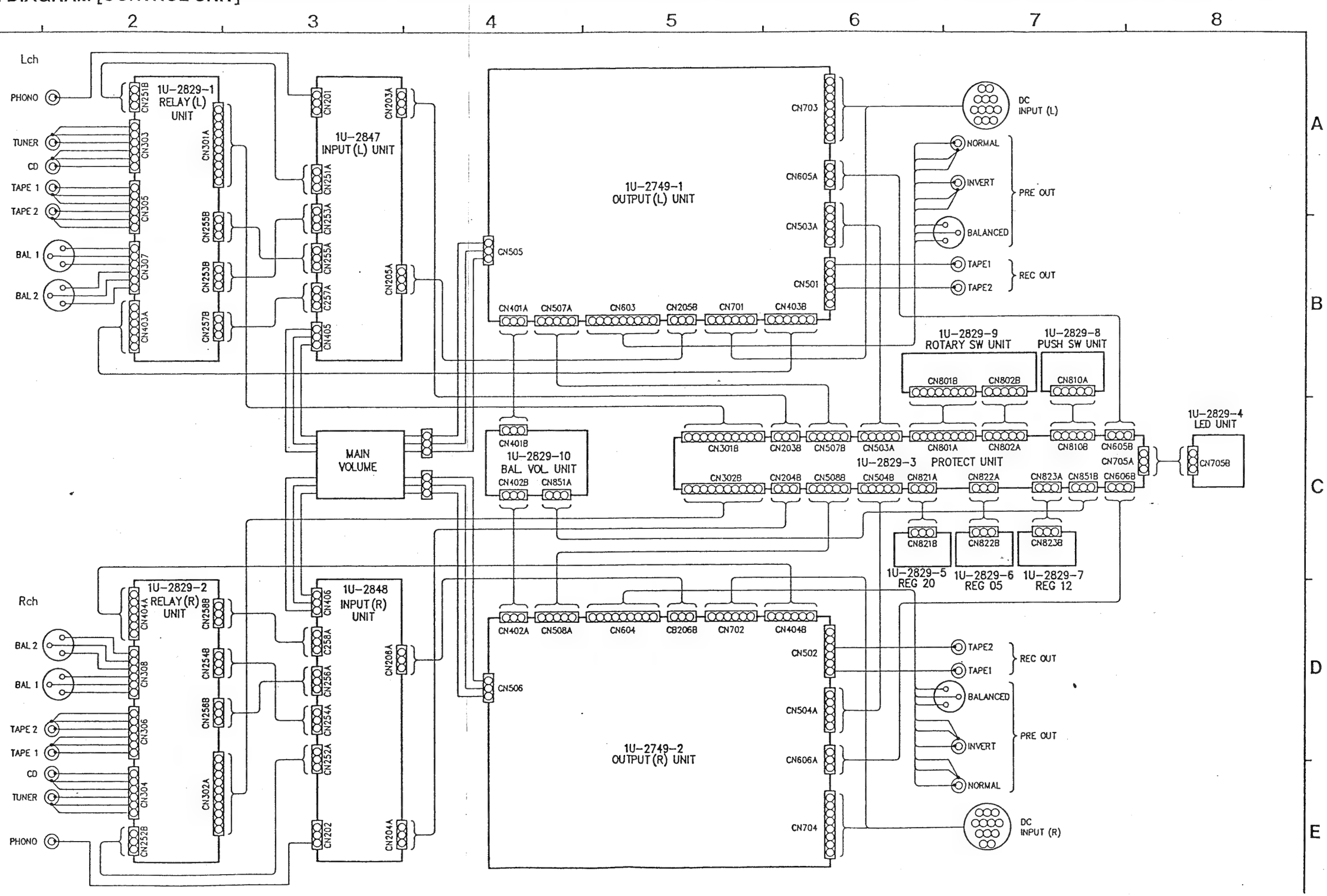
Pin	CN301
1	PHONO
2	TUNER
3	CD
4	TAPE1
5	TAPE2
6	BALANCE1
7	BALANCE2
8	BAL/UNBAL
9	BAL/UNBAL
10	RELAY+B
	CN302
1	PHONO
2	TUNER
3	CD
4	TAPE1
5	TAPE2
6	BALANCE1
7	BALANCE2
8	BAL/UNBAL
9	BAL/UNBAL
10	RELAY+B
	CN303
1	CD(L)
2	GND
3	GND
4	TUNER(L)
5	GND
6	GND
	CN304
1	CD(R)
2	GND
3	GND
4	TUNER(R)
5	GND
6	GND
	CN305
1	TAPE1(L)
2	GND
3	GND
4	TAPE2(L)
5	GND
6	GND
	CN306
1	TAPE1(R)
2	GND
3	GND
4	TAPE2(R)
5	GND
6	GND
	CN307
1	BALI-H(L)
2	GND
3	BALI-C(L)
4	BAL2-H(L)
5	GND
6	BAL2-C(L)
	CN308
1	BALI-H(R)
2	GND
3	BALI-C(R)
4	BAL2-H(R)
5	GND
6	BAL2-C(R)

Pin	CN401
1	BAL-CONT.A(L)
2	GND
3	BAL-CONT.B(L)
	CN402
1	BAL-CONT. A(R)
2	GND
3	BAL-CONT. B(R)
	CN403
1	GND
2	SOURCE (L)
3	GND
4	TAPE1 (L) OUT
5	GND
6	TAPE2 (L) OUT
	CN404
1	GND
2	SOURCE(R)
3	GND
4	TAPE1(R)OUT
5	GND
6	TAPE2 (R) OUT
	CN405
1	HOT(L)
2	GND
3	COLD(L)
	CN406
1	HOT(R)
2	GND
3	COLD(R)
	CN501
1	TAPE1(L)OUT
2	GND
3	GND
4	TAPE2(L)OUT
5	GND
6	GND
	CN502
1	TAPE1(R)OUT
2	GND
3	GND
4	TAPE2(R)OUT
5	GND
6	GND
	CN503
1	TAPE1>2
2	TAPE2>1
3	+12V
4	SOURCE
5	RELAY+B
	CN504
1	TAPE1>2
2	TAPE2>1
3	+12V
4	SOURCE
5	RELAY+B
	CN505
1	HOT(L)
2	GND
3	COLD(L)

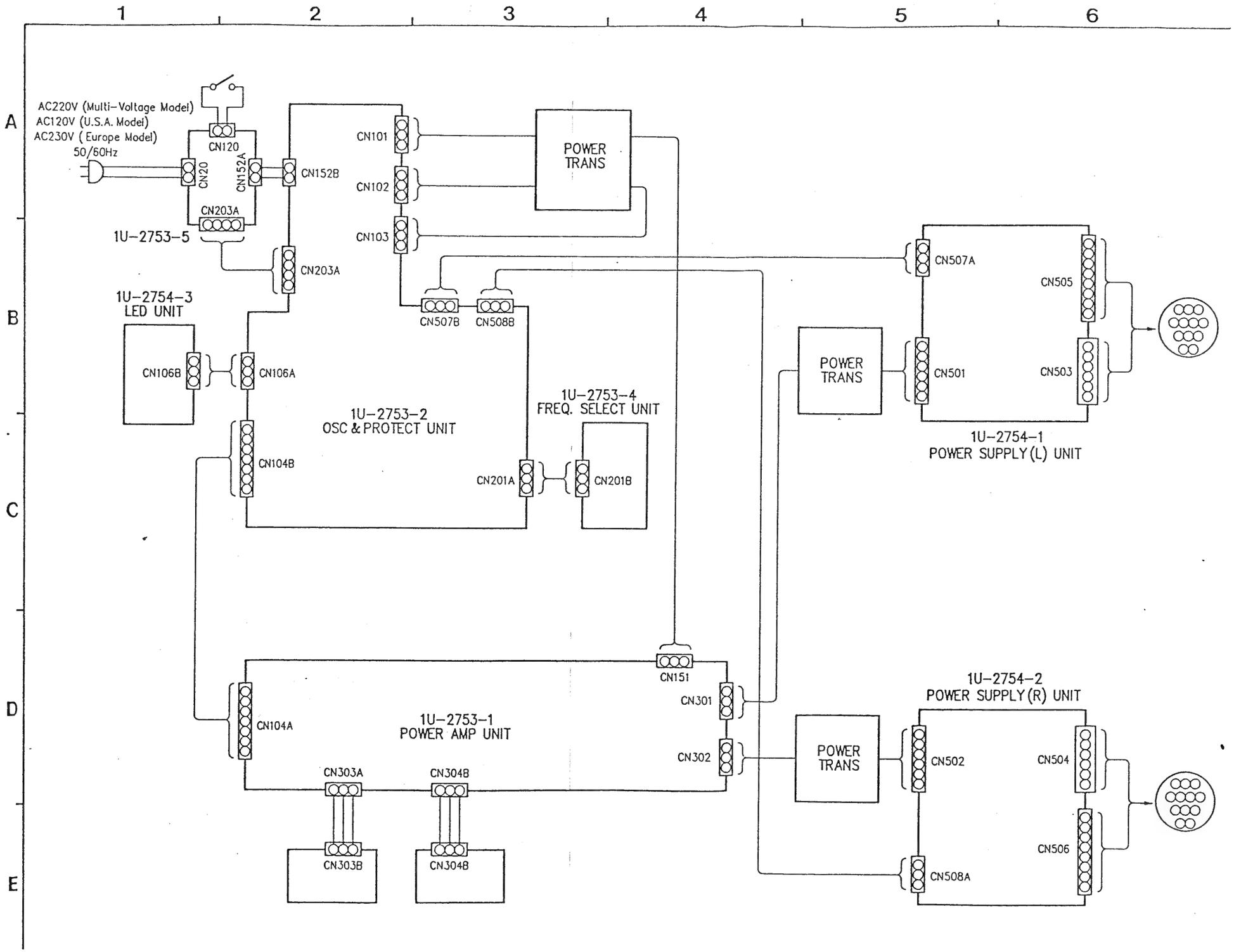
Pin	CN506
1	HOT(R)
2	GND
3	COLD(R)
	CN507
1	HOT(L)OUT
2	GND
3	COLD(L)OUT
4	PRE OUT(L)ON/OFF
5	+12V
	CN508
1	HOT(R)OUT
2	GND
3	COLD(R)OUT
4	PRE OUT(R)ON/OFF
5	+12V
	CN603
1	HOT(L)OUT
2	GND
3	GND
4	COLD(L)OUT
5	GND
6	GND
7	HOT(L)OUT
8	GND
9	COLD(L)OUT
	CN604
1	HOT(R)OUT
2	GND
3	GND
4	COLD(R)OUT
5	GND
6	GND
7	HOT(R)OUT
8	GND
9	COLD(R)OUT
	CN605
1	CNTL+B
2	GND
3	N.C.
	CN606
1	CNTL+B
2	PRE OUT PRESET
3	DC OFFSET ERROR
	CN701
1	+B
2	GND
3	-B
4	+B
5	GND
6	-B
	CN702
1	+B
2	GND
3	-B
4	+B
5	GND
6	-B

Pin	CN703
1	CNTL+B
2	GND
3	GND
4	GND
5	GND
6	GND
7	N.C.
8	N.C.
	CN704
1	N.C.
2	N.C.
3	N.C.
4	CNTL+B
5	PRE OUT PRESET
6	DC OFFSET ERROR
7	N.C.
8	N.C.
	CN705
1	IND.(A)
2	N.C.
3	IND.(C)
	CN801
1	PHONO
2	TUNER
3	CD
4	TAPE1
5	TAPE2
6	BALANCE1
7	BALANCE2
8	GND
	CN802
1	SOURCE
2	OFF
3	TAPE1>2
4	TAPE2>1
5	GND
	CN810
1	EQ POW ERON
2	EQ POWER OFF
3	GND
4	SUBSONIC ON
5	SUBSONIC OFF
	CN821
1	CNTL +B
2	GND
3	+20V
	CN822
1	+12V
2	GND
3	+5V
	CN823
1	CNTL +B
2	GND
3	+12V
	CN851
1	BAL-CONT(L)
2	GND
3	BAL-CONT(R)

WIRING DIAGRAM [CONTROL UNIT]



WIRING DIAGRAM [POWER UNIT]



CONNECTOR PIN FUNCTION (POWER UNIT)

Pin	CN20
1	AC100V(C)
2	AC100V(H)

Pin	CN101
1	0V
2	0V
3	110V

	CN102
1	0V
2	10V
3	120V

	CN104
1	OFFSET(HOT)
2	POSISTOR
3	OFFSET(COLD)
4	GND
5	+12V
6	P-A--ON/OFF
7	OSC

	CN106
1	IND.(A)
2	N.C.
3	IND.(C)

	CN103
1	AC
2	GND
3	AC

	CN120
1	P.SW.(IN)
2	P.SW.(OUT)

	CN151
1	AC
2	GND
3	AC

	CN152
1	AC100V
2	AC100V

	CN201
1	REGISTOR-SEL.
2	COMMON
3	REGISTOR-SEL.

	CN203
1	RELAY
2	+12V
3	GND
4	POWER OFF

	CN301
1	P.A.OUT(C)
2	N.C.
3	P.A.OUT(H)

	CN302
1	P.A.OUT(C)
2	N.C.
3	P.A.OUT(H)

	CN303
1	EMITTER
2	CORRECTOR
3	BASE

Pin	CN304
1	EMITTER
2	CORRECTOR
3	BASE

	CN501
1	AC
2	GND
3	AC
4	AC
5	GND
6	AC

	CN502
1	AC
2	GND
3	AC
4	AC
5	GND
6	AC

	CN503
1	+B
2	GND
3	-B
4	+B
5	GND
6	-B

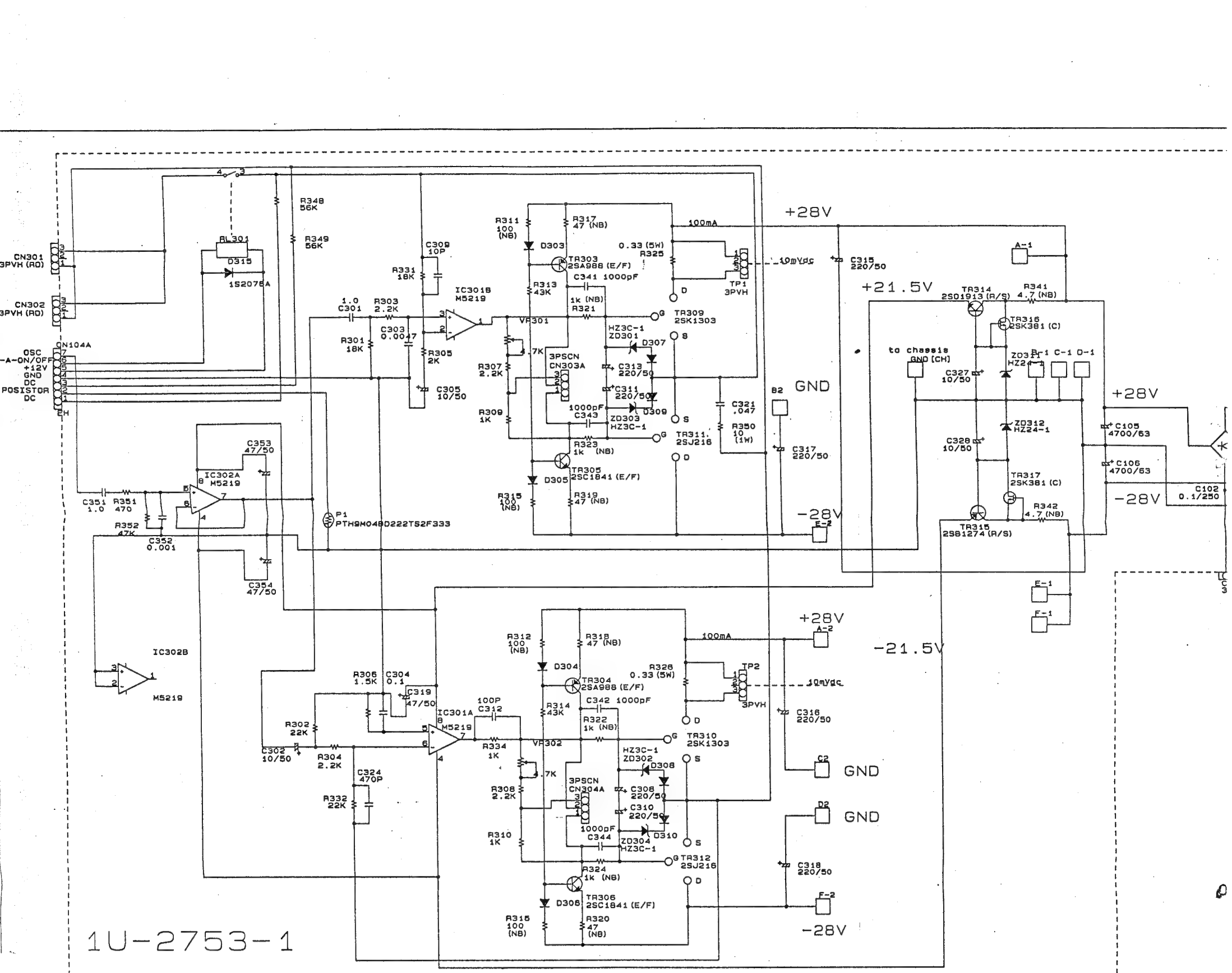
	CN504
1	+B
2	GND
3	-B
4	+B
5	GND
6	-B

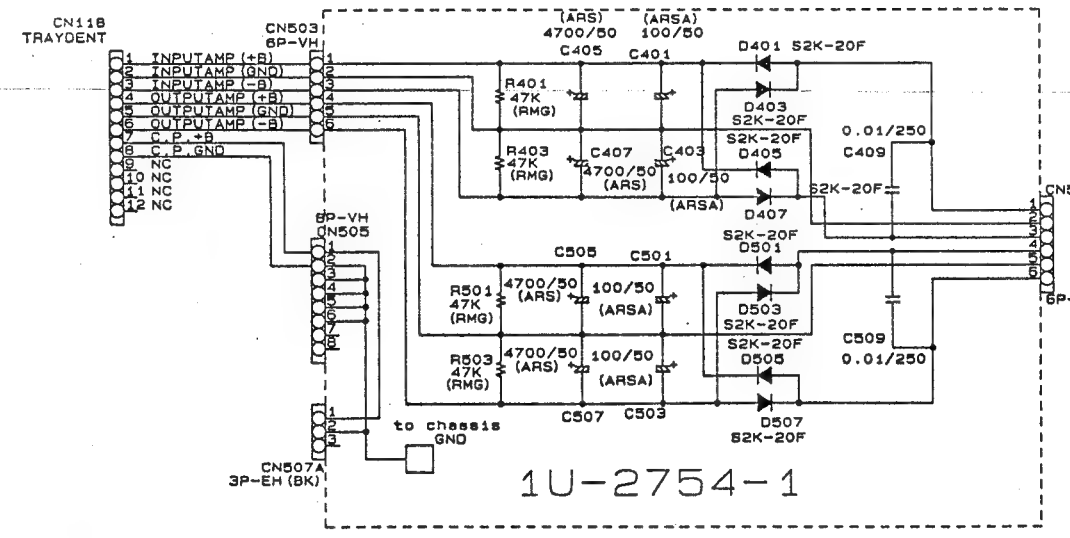
	CN505
1	C.P.+B
2	C.P.GND
3	N.C.
4	N.C.
5	N.C.
6	N.C.
7	N.C.
8	N.C.

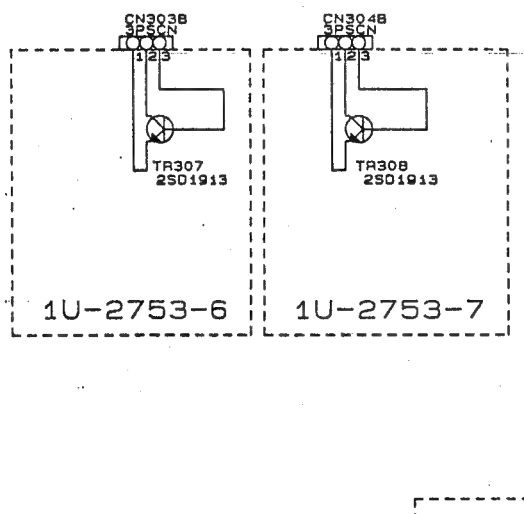
	CN506
1	N.C.
2	N.C.
3	CONTROL +B
4	PRE OUT-PRESET
5	FLAT-AMP-DC
6	N.C.
7	N.C.
8	N.C.

	CN507
1	C.P.+B
2	C.P.GND
3	N.C.

	CN508
1	CONTROL+B
2	PREOUT-PRESET
3	FLAT-AMP-DC







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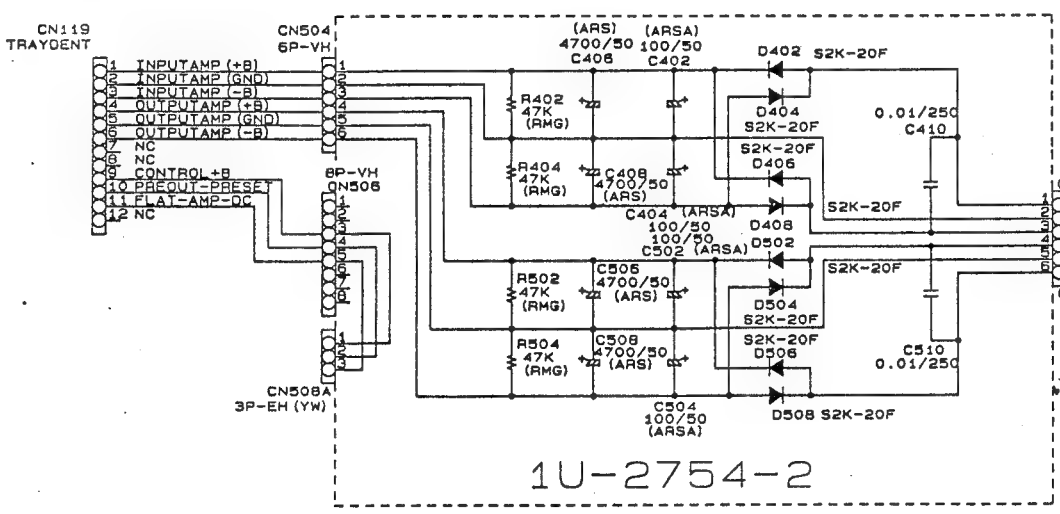
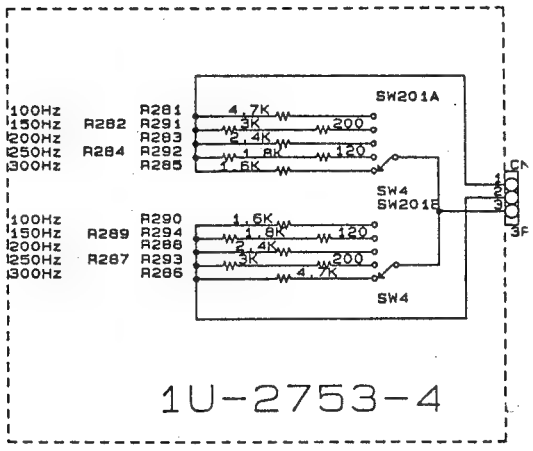
CE: ASF

R: PSNB

D: 1S2076





cold

WIDE TYPE

WIDE TYPE

WIDE TYPE

From P.TRANS

CN101 3PVH (BU)

CN102 3PVH (RO)

SW102

CN1528

2PVH (BU)

F102 1.25A/250V

CN20 2PVH

2PVH CN120

2PVH (BU) CN152A

F101

C108 4700P

0.47 (1W) X4

HOT

C152 0.01/250

COLD

R154 R153 R152 R151

R155 1K (NB)

IC151 IC08

RL151

C151 100/50

IC101 ICP -N15

R156 47K

D151 152076A

TR151 2SA1015 (Y)

CN203A 4PEH

IC201 NJM7812FA (S)

C262 10/25

C261 1/50

CN202A CN3

CN105 3P-NH SIDE

D601 SEL-2410E

1U-2754-3

3P-EH (YW) CN508B

3P-EH (BK) CN507B

3: PRE.DC 2: GND 1: PRESET 1: +8

C245 0.1

D212 D213 D214 D215

DC + DC -

+12V

CN202B CN3

C220 100/6.3

1SR35-200A*4

2SC1815 (BL)

2SC1815 (BL) X2

2SA1015 (Y)

TR205

TR206 2SC1815 (BL)

ZD209 HZ5B-1

TR207 2SC1815 (BL)

TR221 TR202 TR203 TR204 2SC1815 (BL)

R219 24K

R221 47

R222 150K R223 1K R226 10K

R224 100K

R232 10K

TR223 2SD1913 (R/S)

R238 33K

TR210 2SC2878

R237 15K

R238 1.5K

C222 470/50

C223 22/50

CN106A NH

CN104B EH

DC POSISTOR DC GND +12 P-A-ON/OFF OSC

C224 1/100

D207 1SR35-200A

D208 1SR35-200A

C219 10/50

R230 10K

R229 10K

C251 0.01Z

R220 15K R245 15K

C242 100/6.3

C221 47/10

4PEH CN2038

TR215~220 2SC1815 (BL)

OSC OUT

POWER.AMP OUT

PRE.CONECT

D210 1SR35-200A

D217 1SR35-200A

D221 1SR35-200A

R247 10 (NB)

R249 10 (NB)

R253 10 (NB)

R252 100K

R251 10K

1SS106 D211 2SC1815 TR231

C241 10/50 ASF

R258 10K ZD228 HZ9C-1

R259 10K ZD227 HZ9C-1

R261 200K R262 10K TR233 RN2202

ZD229 HZ9C-1

C228 47/16 TR215

C229 22/16 TR216

C231 47/50 TR217

R264 2K

R263 6.8K ZD225 HZ5B-1

TR220 2SC1815 (BL)

D205 1S2076A

RL201 RY-12W-K

CN201A 3PEH

IC204B NJM4558DD

IC204A NJM4558DD

IC205A NJM4558DD

IC205B NJM4558DD

C207 0.1 C213 0.1 C212 0.1

C227 22/50

R242 100

R214 10K

R215 1K

D203 1S2076A

R216 470K

C208 0.1

C214 4.7/50

R204 10K

R213 1K

C210 100/50

ASF R243 100K

R217 100K

R218 8.2K

C211 22/50

R265 390

D204 1S2076A

C205 0.1

R208 4.7K

R207 4.7K

IC2048 NJM4558DD

C202 0.33

C201 0.33

R241 5.6K

C226 100P

R231 2.4K

1/50 C203 4.3K R203

TR201 2SK362 (GR)

+15V

-15V

IC202 NJM78M15FA

IC203 NJM79M15FA

+23V

-23V

D201 1S2076A

D202 1S2076A

C215 22/50

C216 22/50

C217 2200/50 (ASF)

C218 2200/50 (ASF)

D101 1SR35-200A

D102 1SR35-200A

D103 1SR35-200A

D104 1SR35-200A

C101 0.01/250

C244 2200P

C243 10/50

3.15/250V F103

F104 3.15A/250V

TR235 2SK373Y

TR234 2SD1913 (R/S)

CN103 3P-VH (YK)

CN201B 3PEH

1U-2753-2

K

ASF

SNB

S2076A

-4

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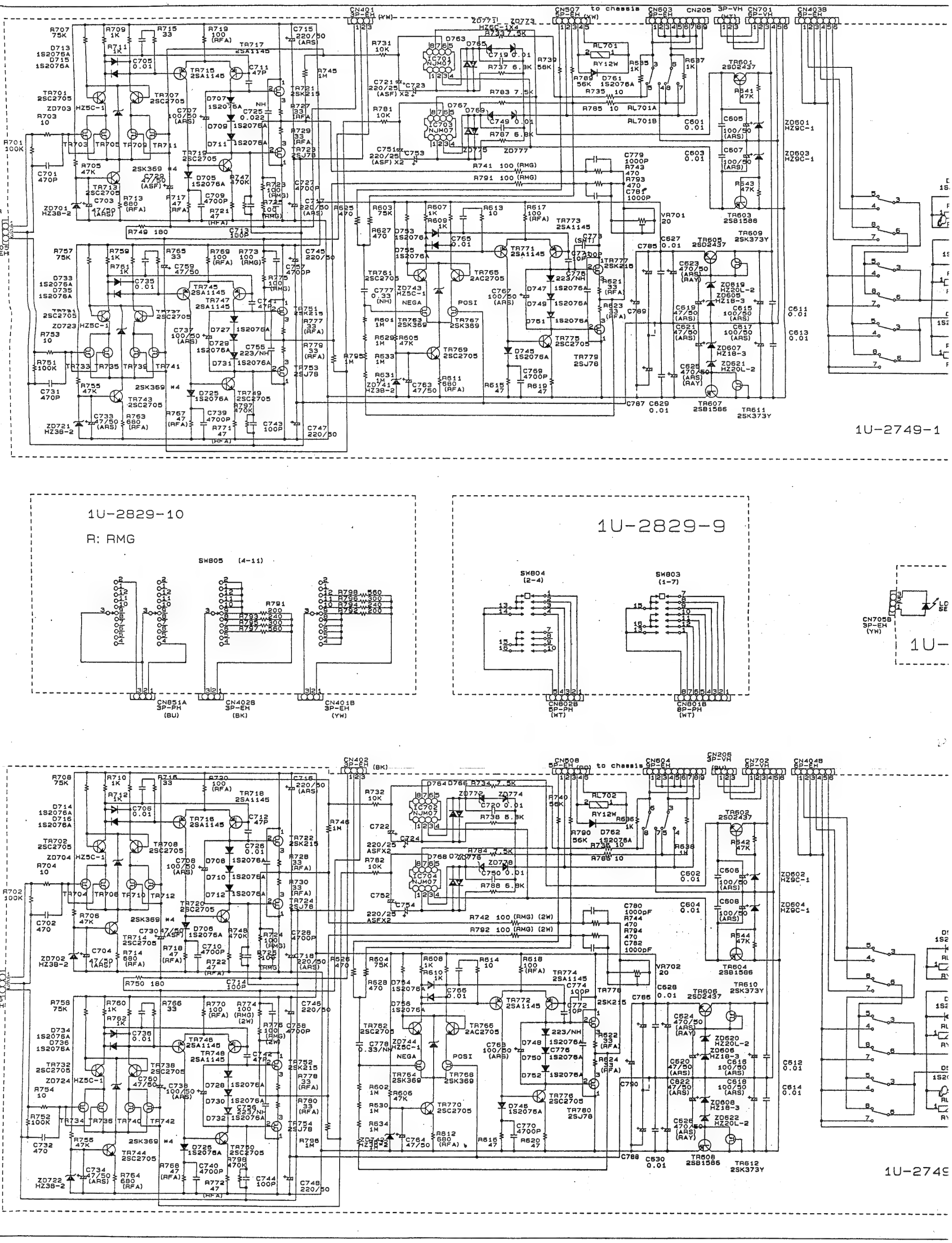
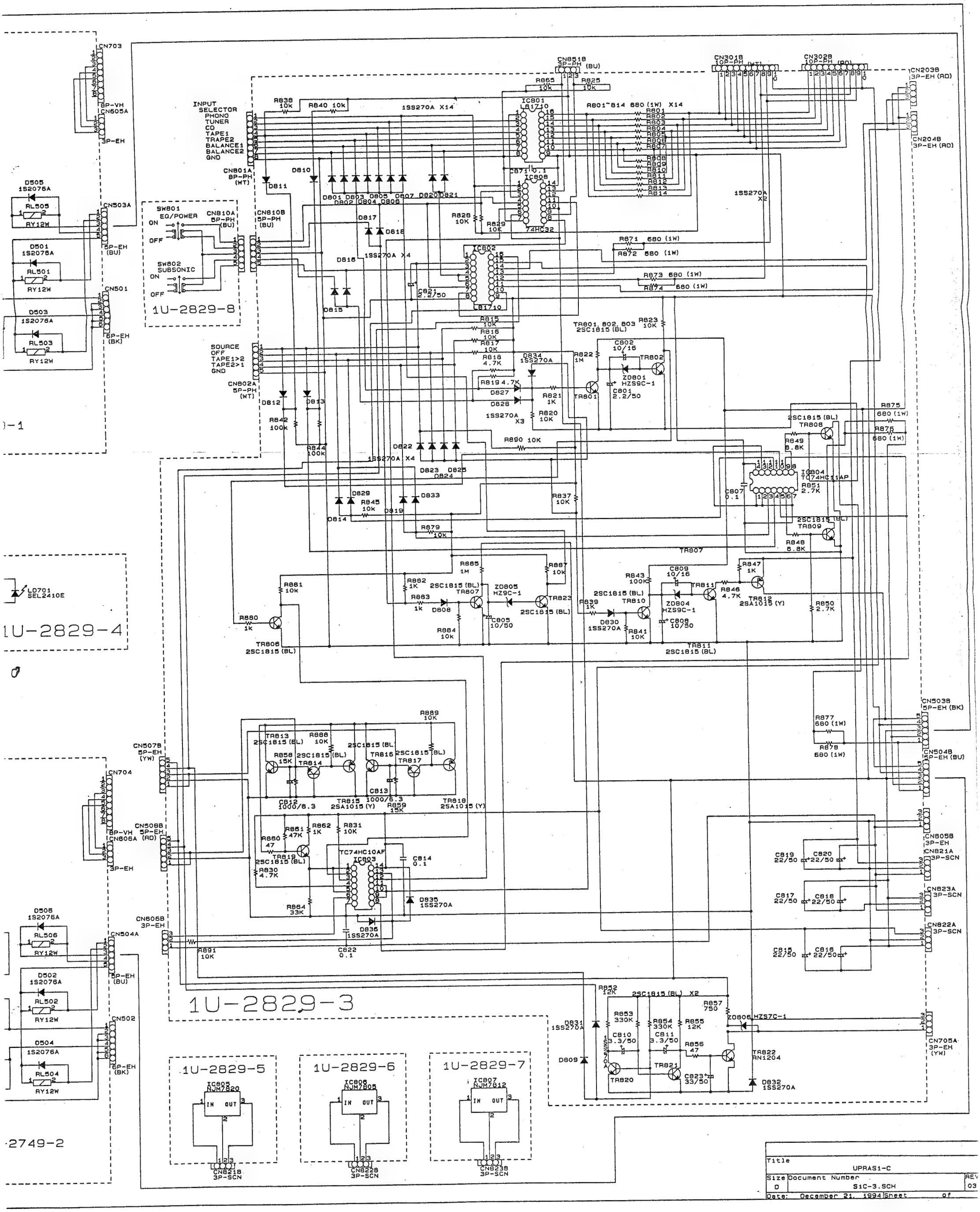

1U-2749-1
1U-2829-10
R: RMG
SW805 (4-11)
CN851A 3P-PH (BU)
CN402B 3P-EH (BK)
CN401B 3P-EH (YW)
1U-2829-9
SW804 (2-4)
SW803 (1-7)
CN802B 5P-PH (WT)
CN801B 8P-PH (WT)
CN705B 3P-EH (YW)
1U-2749
to ATTENEUTOR
CN506 3P-EH (RD)
CN401 3P-EH (YW)
CN507 5P-EH (YW)
to chassis
CN603 9P-EH
CN205 3P-VH (WT)
CN701 6P-VH
CN403B 6P-EH
CN402 3P-EH (BK)
CN508 5P-EH (BU)
CN604 9P-EH
CN206 3P-VH (BU)
CN702 6P-VH
CN404B 6P-EH


CN703
8P-VH
CN605A
3P-EH
D505
1S2076A
RL505
RY12W
CN503A
5P-EH
(BU)
D501
1S2076A
RL501
RY12W
CN501
D503
1S2076A
RL503
RY12W
6P-EH
(BK)
INPUT SELECTOR
PHONO
TUNER
CD
TAPE1
TRAPE2
BALANCE1
BALANCE2
GND
CN801A
8P-PH
(WT)
CN8518
3P-PH (BU)
CN3018
10P-PH (WT)
CN3028
10P-PH (RD)
CN2038
3P-EH (RD)
CN2048
3P-EH (RD)
R838
10k
R840 10k
1SS270A X14
R865
10k
R825
10k
IC801
LB1710
R801~814 680 (1W) X14
R801
R802
R803
R804
R805
R806
R807
R808
R809
R810
R811
R812
R813
R814
1SS270A
X2
D810
D811
D801 D803 D805 D807 D820 D821
D802 D804 D806
C871 0.1
IC808
74HC32
R828
10K
R829
10K
SW801
EQ/POWER
ON
OFF
SW802
SUBSONIC
ON
OFF
1U-2829-8
CN810A
5P-PH
(BU)
CN810B
5P-PH
(BU)
D817
D818
D815
1SS270A X4
IC802
LB1710
C821
2.2/50
R871 680 (1W)
R872 680 (1W)
R873 680 (1W)
R874 680 (1W)
R815
10K
R816
10K
R817
10K
R818
4.7K
TR801, 802, 803
2SC1815 (BL)
R823
10K
C802
10/16
TR802
R822
1M
D834
1SS270A
ZD801
HZS9C-1
C801
2.2/50
TR801
R819 4.7K
D827
D828
R821
1K
R820
10K
1SS270A
X3
SOURCE
OFF
TAPE1>2
TAPE2>1
GND
CN802A
5P-PH
(WT)
D812
D813
R842
100K
R844
100K
D822
1SS270A X4
R890 10K
D823 D825
D824
R875
680 (1W)
R876
680 (1W)
2SC1815 (BL)
TR808
R849
6.8K
IC804
TC74HC11AP
C807
0.1
R851
2.7K
D829
R845
10k
D819
D833
D814
R837
10K
R879
10K
2SC1815 (BL)
TR809
R848
6.8K
TR807
R885
1M
R887
10K
R882
1K
2SC1815 (BL)
TR807
ZD805
HZ9C-1
TR823
2SC1815 (BL)
R883
1k
D808
C805
10/50
R884
10k
R861
10k
R880
1k
TR806
2SC1815 (BL)
R843
100K
C809
10/16
TR811
R847
1K
2SC1815 (BL)
TR810
ZD804
HZS9C-1
R846
4.7K
TR812
2SA1015 (Y)
R850
2.7K
R839
1K
D830
1SS270A
R841
10K
C808
10/50
TR811
2SC1815 (BL)
LD701
SEL2410E
1U-2829-4
R889
10K
TR813
2SC1815 (BL)
R888
10K
2SC1815 (BL)
TR816
2SC1815 (BL)
TR817
R858
15K
2SC1815 (BL)
TR814
C813
C812
1000/6.3
TR815
2SA1015 (Y)
R859
15K
TR818
2SA1015 (Y)
CN507B
5P-EH
(YW)
CN704
8P-VH
CN606A (RD)
3P-EH
CN508B
5P-EH
R861
47K
R862
1K
R831
10K
R860
47
TR819
2SC1815 (BL)
R830
4.7K
TC74HC10AF
IC803
C814
0.1
R864
33K
D835
1SS270A
D836
1SS270A
C822
0.1
R891
10K
CN606B
3P-EH
CN5038
5P-EH (BK)
CN5048
5P-EH (BU)
R877
680 (1W)
R878
680 (1W)
CN8058
3P-EH
CN821A
3P-SCN
CN823A
3P-SCN
CN822A
3P-SCN
C819
22/50
C820
22/50
C817
22/50
C818
22/50
C815
22/50
C816
22/50
D506
1S2076A
RL506
RY12W
CN504A
6P-EH
(BU)
D502
1S2076A
RL502
RY12W
CN502
D504
1S2076A
RL504
RY12W
6P-EH
(BK)
1U-2829-3
R852
12K
2SC1815 (BL) X2
R857
750
ZD806 HZS7C-1
R853
330K
R854
330K
R855
12K
C810
3.3/50
C811
3.3/50
R856
47
TR822
RN1204
D831
1SS270A
D809
TR820
TR821
C823
33/50
D832
1SS270A
CN705A
3P-EH
(YW)
1U-2829-5
IC805
NJM7820
IN
OUT
CN8218
3P-SCN
1U-2829-6
IC806
NJM7805
CN8228
3P-SCN
1U-2829-7
IC807
NJM7812
CN8238
3P-SCN
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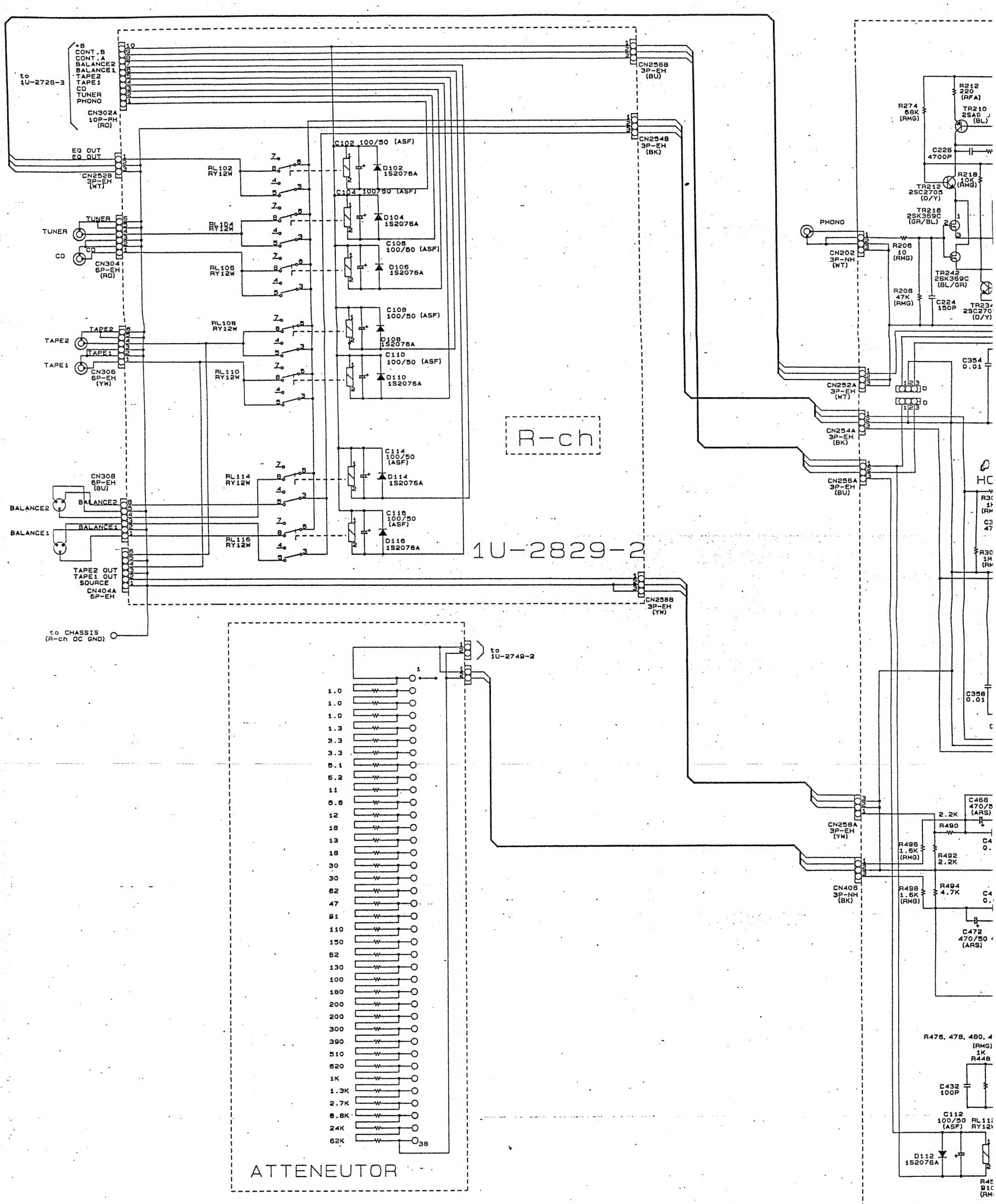
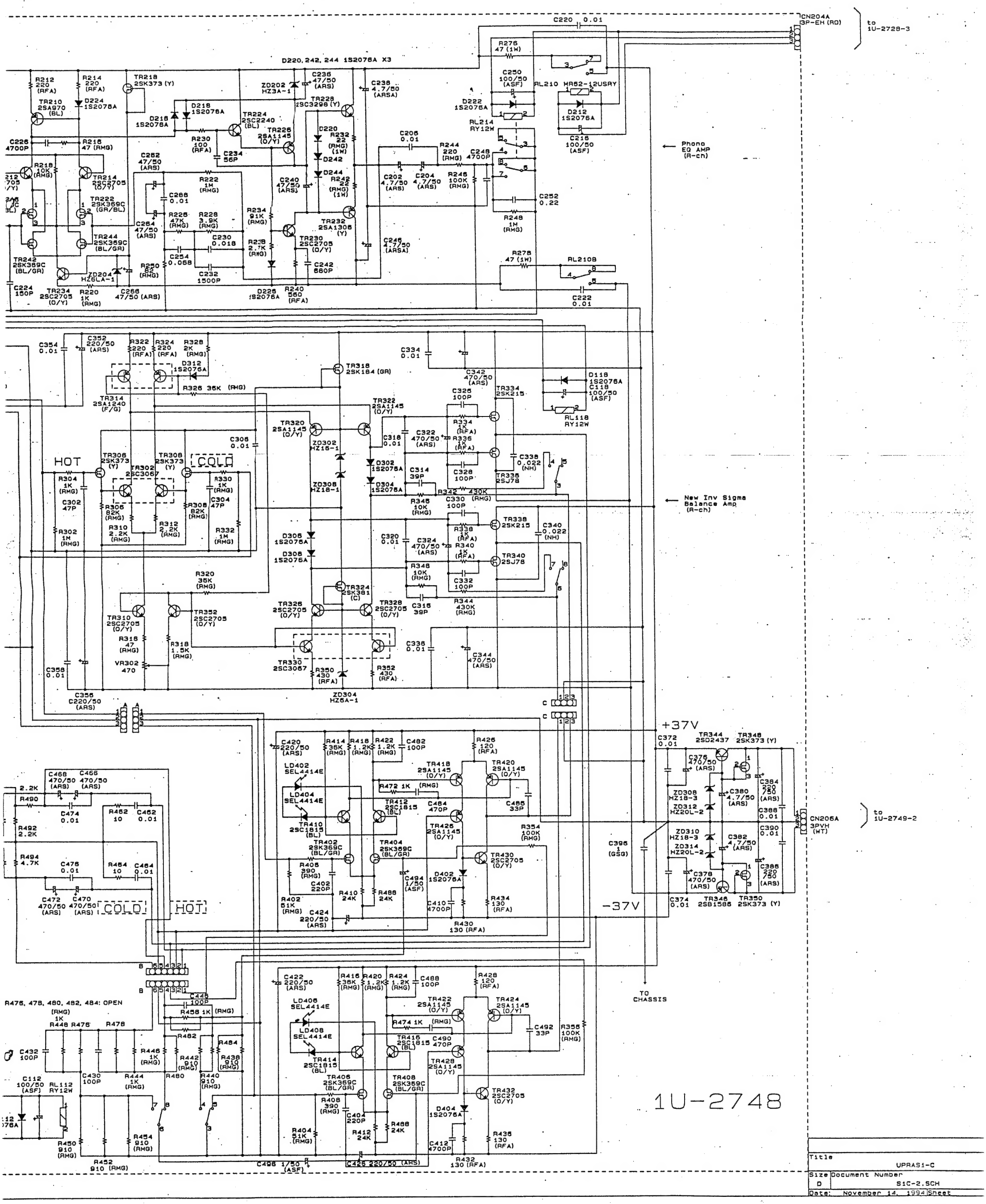

+B
CONT.B
CONT.A
BALANCE2
BALANCE1
TAPE2
TAPE1
CD
TUNER
PHONO
to 1U-2728-3
CN302A 10P-PH (RD)
CN256B 3P-EH (BU)
CN254B 3P-EH (BK)
EQ OUT
EQ OUT
CN252B 3P-EH (WT)
TUNER
CD
CN304 6P-EH (RD)
TAPE2
TAPE1
CN306 6P-EH (YW)
CN308 6P-EH (BU)
BALANCE2
BALANCE1
TAPE2 OUT
TAPE1 OUT
SOURCE
CN404A 6P-EH
to CHASSIS (R-ch DC GND)
RL102 RY12W
RL104 RY12W
RL106 RY12W
RL108 RY12W
RL110 RY12W
RL114 RY12W
RL116 RY12W
C102 100/50 (ASF)
D102 1S2076A
C104 100/50 (ASF)
D104 1S2076A
C106 100/50 (ASF)
D106 1S2076A
C108 100/50 (ASF)
D108 1S2076A
C110 100/50 (ASF)
D110 1S2076A
C114 100/50 (ASF)
D114 1S2076A
C116 100/50 (ASF)
D116 1S2076A
R-ch
1U-2829-2
CN258B 3P-EH (YW)
to 1U-2749-2
1.0
1.0
1.0
1.3
3.3
3.3
5.1
5.2
11
5.6
12
18
13
18
30
30
62
47
91
110
150
82
130
100
180
200
200
300
390
510
620
1K
1.3K
2.7K
6.8K
24K
62K
38
ATTENEUTOR
R212 220 (RFA)
R274 68K (RMG)
TR210 2SA9 (BL)
C226 4700P
R218 10K (RMG)
TR212 2SC2705 (O/Y)
TR218 2SK369C (GR/BL)
PHONO
CN202 3P-NH (WT)
R206 10 (RMG)
TR242 2SK369C (BL/GR)
R208 47K (RMG)
C224 150P
C354 0.01
CN252A 3P-EH (WT)
CN254A 3P-EH (BK)
CN256A 3P-EH (BU)
CN258A 3P-EH (YW)
CN406 3P-NH (BK)
C358 0.01
C468 470/5 (ARS)
2.2K
R490
R496 1.6K (RMG)
R492 2.2K
R498 1.6K (RMG)
R494 4.7K
C472 470/50 (ARS)
R476, 478, 480, 4
(RMG)
1K
R448
C432 100P
C112 100/50 (ASF)
RL11 RY12
D112 1S2076A
R45 91 (RM


D220, 242, 244 1S2076A X3
CN204A 3P-EH (RD)
to 1U-2728-3
Phono EQ AMP (R-ch)
New Inv Sigma Balance Amp (R-ch)
HOT
COLD
COLD
HOT
+37V
-37V
TO CHASSIS
CN206A 3PVH (WT)
to 1U-2749-2
R475, 478, 480, 482, 484: OPEN
1U-2748
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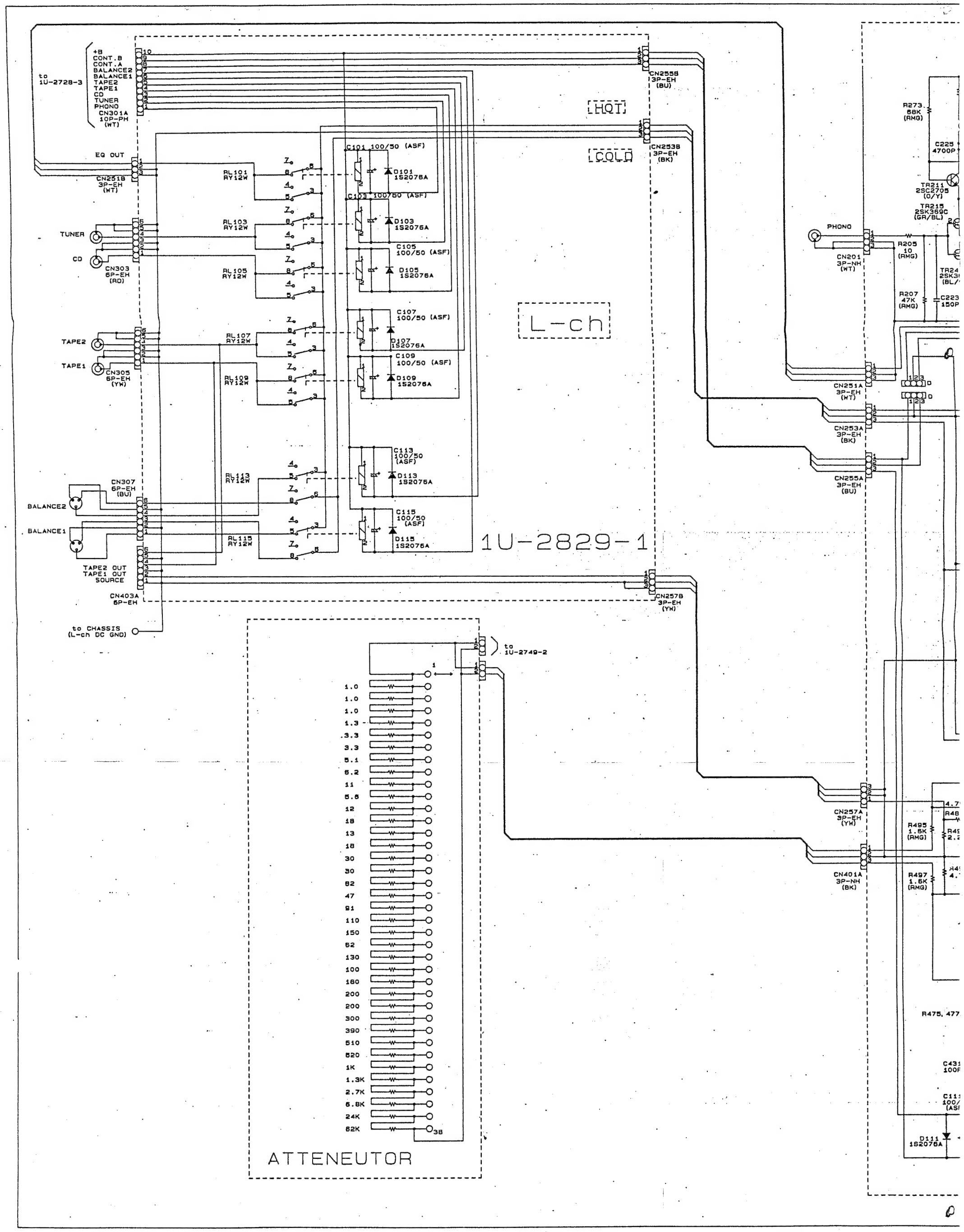
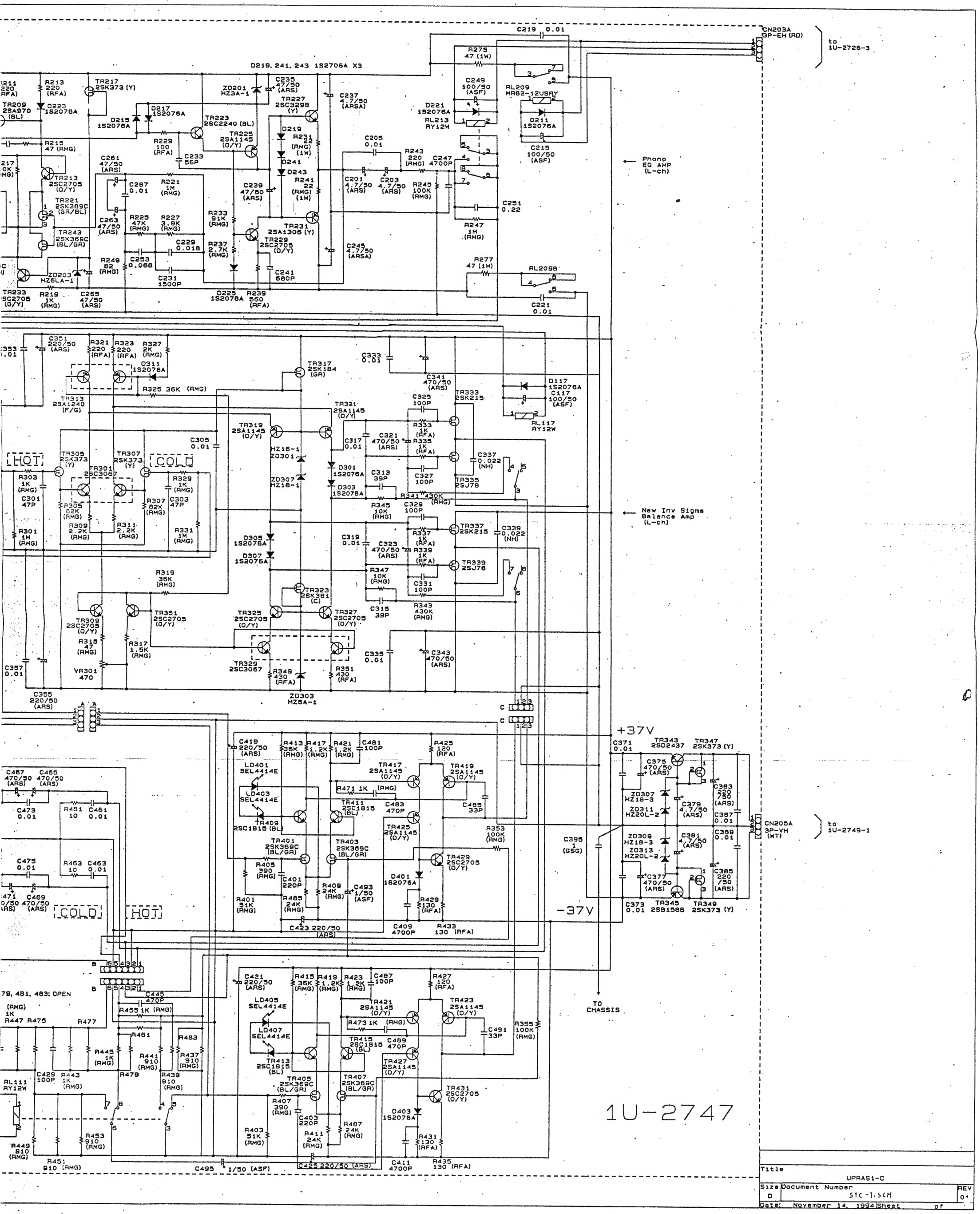

to 1U-2728-3
+B
CONT.B
CONT.A
BALANCE2
BALANCE1
TAPE2
TAPE1
CD
TUNER
PHONO
CN301A 10P-PH (WT)
CN253B 3P-EH (BU)
CN253B 3P-EH (BK)
HOT
COLD
EQ OUT
CN251B 3P-EH (WT)
RL101 RY12W
RL103 RY12W
RL105 RY12W
RL107 RY12W
RL109 RY12W
RL113 RY12W
RL115 RY12W
C101 100/50 (ASF)
D101 1S2076A
C103 100/50 (ASF)
D103 1S2076A
C105 100/50 (ASF)
D105 1S2076A
C107 100/50 (ASF)
D107 1S2076A
C109 100/50 (ASF)
D109 1S2076A
C113 100/50 (ASF)
D113 1S2076A
C115 100/50 (ASF)
D115 1S2076A
TUNER
CD
CN303 6P-EH (RD)
TAPE2
TAPE1
CN305 6P-EH (YW)
CN307 6P-EH (BU)
BALANCE2
BALANCE1
TAPE2 OUT
TAPE1 OUT
SOURCE
CN403A 6P-EH
to CHASSIS (L-ch DC GND)
L-ch
1U-2829-1
CN257B 3P-EH (YW)
to 1U-2749-2
1.0
1.0
1.0
1.3
3.3
3.3
5.1
6.2
11
8.8
12
18
13
18
30
30
82
47
91
110
150
62
130
100
160
200
200
300
390
510
620
1K
1.3K
2.7K
6.8K
24K
82K
38
ATTENEUTOR
R273. 68K (RMG)
C225 4700P
TR211 2SC2705 (O/Y)
TR215 2SK369C (GR/BL)
PHONO
CN201 3P-NH (WT)
R205 10 (RMG)
R207 47K (RMG)
C223 150P
CN251A 3P-EH (WT)
CN253A 3P-EH (BK)
CN255A 3P-EH (BU)
CN257A 3P-EH (YW)
CN401A 3P-NH (BK)
R495 1.6K (RMG)
R497 1.6K (RMG)
R475, 477
D111 1S2076A


D219, 241, 243 1S2076A X3
CN203A 3P-EH (RD)
to 1U-2728-3
Phono EQ AMP (L-ch)
New Inv Sigma Balance Amp (L-ch)
HOT
COLD
+37V
-37V
TO CHASSIS
CN205A 3P-VH (WT)
to 1U-2749-1
D219 R231 22 (RMG) (1W)
D241
D243
R241 22 (RMG) (1W)
R243 220 (RMG)
C247 4700P
C205 0.01
C201 4.7/50 (ARS)
C203 4.7/50 (ARS)
R245 100K (RMG)
C251 0.22
R247 1M (RMG)
C219 0.01
R275 47 (1W)
C249 100/50 (ASF)
D221 1S2076A
RL213 RY12W
RL209 MR62-12USRY
D211 1S2076A
C215 100/50 (ASF)
R277 47 (1W)
RL209B
C221 0.01
TR213 2SC2705 (O/Y)
TR221 2SK369C (GR/BL)
TR243 2SK369C (BL/GR)
TR233 2SC2705 (O/Y)
R219 1K (RMG)
C265 47/50 (ARS)
ZD203 HZ6LA-1
R249 82 (RMG)
C253 0.068
C231 1500P
C229 0.018
R237 2.7K (RMG)
D225 1S2076A
R239 560 (RFA)
C241 680P
C245 4.7/50 (ARSA)
TR231 2SA1306 (Y)
TR229 2SC2705 (O/Y)
R233 91K (RMG)
C239 47/50 (ARS)
C261 47/50 (ARS)
C263 47/50 (ARS)
C267 0.01
R221 1M (RMG)
R225 47K (RMG)
R227 3.9K (RMG)
TR215 2SC2705 (O/Y)
R215 47 (RMG)
TR209 2SA970 (BL)
D223 1S2076A
TR217 2SK373 (Y)
D215 1S2076A
D217 1S2076A
R213 220 (RFA)
R229 100 (RFA)
C233 56P
TR223 2SC2240 (BL)
TR225 2SA1145 (O/Y)
ZD201 HZ3A-1
C235 47/50 (ARS)
TR227 2SC3298 (Y)
C237 4.7/50 (ARSA)
C351 220/50 (ARS)
R321 220 (RFA)
R323 220 (RFA)
R327 2K (RMG)
D311 1S2076A
R325 36K (RMG)
TR313 2SA1240 (F/G)
TR317 2SK184 (GR)
C333 0.01
C341 470/50 (ARS)
TR333 2SK215
C325 100P
R333 1K (RFA)
R335 1K (RFA)
C327 100P
TR335 2SJ78
C337 0.022 (NH)
D117 1S2076A
C117 100/50 (ASF)
RL117 RY12W
TR321 2SA1145 (O/Y)
TR319 2SA1145 (O/Y)
C317 0.01
C321 470/50 (ARS)
C313 39P
D301 1S2076A
D303 1S2076A
R341 430K (RMG)
R345 10K (RMG)
C329 100P
R337 1K (RFA)
R339 1K (RFA)
TR337 2SK215
C339 0.022 (NH)
TR339 2SJ78
C319 0.01
C323 470/50 (ARS)
R347 10K (RMG)
C331 100P
C315 39P
R343 430K (RMG)
C305 0.01
HZ16-1 ZD301
ZD307 HZ18-1
D305 1S2076A
D307 1S2076A
TR305 2SK373 (Y)
TR307 2SK373 (Y)
TR301 2SC3067
R303 1K (RMG)
C301 47P
R305 82K (RMG)
R307 82K (RMG)
C303 47P
R329 1K (RMG)
R309 2.2K (RMG)
R311 2.2K (RMG)
R331 1M (RMG)
R301 1M (RMG)
R319 36K (RMG)
TR323 2SK381 (C)
TR309 2SC2705 (O/Y)
TR351 2SC2705 (O/Y)
TR325 2SC2705 (O/Y)
TR327 2SC2705 (O/Y)
R315 47 (RMG)
R317 1.5K (RMG)
VR301 470
C357 0.01
C355 220/50 (ARS)
TR329 2SC3067
R349 430 (RFA)
R351 430 (RFA)
ZD303 HZ5A-1
C335 0.01
C343 470/50 (ARS)
C419 220/50 (ARS)
R413 36K (RMG)
R417 1.2K (RMG)
R421 1.2K (RMG)
C481 100P
R425 120 (RFA)
LD401 SEL4414E
LD403 SEL4414E
TR409 2SC1815 (BL)
TR411 2SC1815 (BL)
TR417 2SA1145 (O/Y)
TR419 2SA1145 (O/Y)
R471 1K (RMG)
C483 470P
C485 33P
TR425 2SA1145 (O/Y)
R353 100K (RMG)
TR401 2SK369C (BL/GR)
TR403 2SK369C (BL/GR)
TR429 2SC2705 (O/Y)
R405 390 (RMG)
C401 220P
R409 24K (RMG)
C493 1/50 (ASF)
D401 1S2076A
R429 130 (RFA)
R401 51K (RMG)
R465 24K (RMG)
C423 220/50 (ARS)
C409 4700P
R433 130 (RFA)
C371 0.01
TR343 2SD2437
TR347 2SK373 (Y)
C375 470/50 (ARS)
ZD307 HZ18-3
ZD311 HZ20L-2
C379 4.7/50 (ARS)
C383 220/50 (ARS)
C387 0.01
ZD309 HZ18-3
ZD313 HZ20L-2
C381 4.7/50 (ARS)
C389 0.01
C377 470/50 (ARS)
C385 220/50 (ARS)
C373 0.01
TR345 2SB1586
TR349 2SK373 (Y)
C395 1 (GSG)
C457 470/50 (ARS)
C465 470/50 (ARS)
C473 0.01
R461 10
C461 0.01
C475 0.01
R463 10
C463 0.01
C469 470/50 (ARS)
C471 470/50 (ARS)
C467 470/50 (ARS)
79, 481, 483: OPEN
C445 470P
R455 1K (RMG)
R447 1K (RMG)
R475
R477
R481
R483
R445 1K (RMG)
R441 910 (RMG)
R437 910 (RMG)
C429 100P
R443 1K (RMG)
R479
R439 910 (RMG)
RL111 RY12W
R449 910 (RMG)
R451 910 (RMG)
R453 910 (RMG)
C495 1/50 (ASF)
C425 220/50 (ARS)
C421 220/50 (ARS)
R415 36K (RMG)
R419 1.2K (RMG)
R423 1.2K (RMG)
C487 100P
R427 120 (RFA)
LD405 SEL4414E
LD407 SEL4414E
TR413 2SC1815 (BL)
TR415 2SC1815 (BL)
TR421 2SA1145 (O/Y)
TR423 2SA1145 (O/Y)
R473 1K (RMG)
C491 33P
R355 100K (RMG)
C489 470P
TR427 2SA1145 (O/Y)
TR405 2SK369C (BL/GR)
TR407 2SK369C (BL/GR)
TR431 2SC2705 (O/Y)
R407 390 (RMG)
C403 220P
R403 51K (RMG)
R411 24K (RMG)
R487 24K (RMG)
D403 1S2076A
R431 130 (RFA)
C411 4700P
R435 130 (RFA)
1U-2747
Title
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Size D
Document Number SIC-1.SCH
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Date: November 14, 1994 Sheet of